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OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR JUNE, 1931

The severe armyworm outbreak reported from Texas as far northward as Virginia in the last number of the Survey Bulletin became serious during the month of June in the East Central States westward to Iowa. In the East Central States this insect is doing considerable damage to small grain and corn.

The unusual cutworm prevalence that developed during May progressed through the early part of June, reports of serious damage to a great variety of crops having been received from Connecticut southward to Virginia and westward to Colorado and Utah. The most serious phase of this cutworm development is an outbreak of the variegated cutworm which extends from southern Nebraska across Kansas and into Oklahoma and Arkansas.

During June grasshoppers developed to such an extent as to require control measures in northwestern Minnesota, throughout the two Dakotas, southward through Nebraska to north central Texas, and westward into the Great Basin region. There is a local outbreak in Klamath and Lake Counties, Oregon, where 25,000 pounds of poisoned bran mash are being distributed daily for their control.

Wireworms have been reported as doing rather severe damage to corn in Vermont and Pennsylvania and to a variety of crops from New York southward to Maryland and westward to Iowa and Nebraska. The wireworm Heteroderes laurentii Guer. more seriously damaged the commercial Irish potato crop of Alabama than it has in any year since its discovery in that State.

The Hessian fly is apparently decidedly on the increase in the East Central States, with scattered serious infestations in Nebraska and Kansas. Rather heavy infestations of spring wheat by this insect are reported from the Willamette Valley of Oregon.

A rather unusual infestation of wheat by the tenebrionid Blapstinus grimalis Casey in the region north of Great Falls in Montana occurred during the month. In the infested fields as many as 100 beetles to the square yard have been observed.

During the last week in June recently hatched chinch bugs were observed in the heavily infested area extending from western Ohio to southeastern Kansas. The outbreak this year seems to be more severe than has been recorded for several years.

The corn ear worm became seriously destructive in the Gulf region and the lower Mississippi Valley during the early part of the month and was first observed in Nebraska about June 10 and in Maryland June 15.

More damage has been occasioned to corn by sod webworms in the East Central States than has occurred in a number of years, very serious damage being reported from Ohio westward to Iowa.

The velvetbean caterpillar appeared in the Everglades of Florida on June 10. This is about two weeks earlier than in 1930.

During the early part of June the rosy apple aphid developed to serious proportions in southern New England and in the Middle Atlantic and East Central States extending southward to Arkansas. Very heavy infestations by this insect are also reported from the Pacific Northwest.

First side-worm injury by the codling moth was reported from Massachusetts about June 16. By the middle of the month eggs were hatching in the Hudson River Valley of New York and by the third week of the month they were hatching in numbers in western New York. Side-worm injury had started in southern New Jersey by June 9. From the Hudson River Valley southward to Georgia the codling moth seems to be unusually abundant. Very heavy infestations are also reported from the greater part of the East Central States westward to Nebraska and Kansas. In the Pacific Northwest the codling moth situation is more serious than it has been for several years.

Apple leafhoppers are doing considerable damage in the Northeastern and Middle Atlantic States southward to North Carolina.

The oriental fruit moth situation on the whole seems to be much less serious than at this time last year.

Although the light infestation of the plum curculio reported in the last number of the Survey Bulletin prevailed over the South Atlantic States, infestation by this insect developed to rather serious proportions in the Hudson River Valley and Connecticut. The first beetle of this year's generation to be observed in a pupal cell was seen at Fort Valley, Ga., on June 1. The first transformation reported last year was on May 23, which itself was considered late.

Considerable damage was done in southern Georgia to pecans by the pecan leaf case bearer, while in Florida the nut case bearer destroyed over 75 per cent of the crop about Jacksonville. In the vicinity of Albany, Ga., the nut case bearer infestation is extremely light.

The hickory shuck worm on pecan is occasioning considerable alarm in parts of Georgia and Mississippi.

The Mexican fruit worm was found infesting locally grown fruit at Matamoros, Mexico, and in a grove near Mission, Texas.

The seed corn maggot was rather destructive in New York and the East Central States southward to Kentucky and westward to Nebraska.

The cabbage maggot is occurring in outbreak numbers in Connecticut, New York, and New Jersey, with serious damage also reported from Indiana, Kentucky, and Wisconsin. In Connecticut one grower estimated his loss at between 2,000 and 3,000 plants, while plants in unscreened beds in New York were damaged from 15 to 60 per cent.

The Colorado potato beetle continued to be unusually abundant in the Middle Atlantic States westward to Illinois, and an unusual outbreak of this insect was reported from northwestern Iowa.

The potato aphid is much more abundant on potatoes and tomatoes on the eastern shore of Maryland and Virginia than usual. This insect is also reported as being very abundant in Indiana and Ohio.

The Mexican bean beetle is causing serious damage in Hartford County, Conn., and became so numerous in parts of New Jersey that the supply of insecticides for their control was exhausted.

The asparagus beetle was very troublesome from Connecticut westward to Iowa, complete devastation taking place at many points. This insect is also becoming a serious pest in Colorado and California.

Throughout practically the entire country, from New England to Florida and westward to Iowa and Nebraska, the striped cucumber beetle is being reported as unusually destructive.

From central Ohio westward to Wisconsin the pea aphid is so abundant that the pea crop is seriously threatened.

The potato tuber worm was found attacking tobacco at several places in Kentucky during the third week in June. This is said to be the first record of the occurrence of this insect in that State.

A very heavy emergence of Brood V of the periodical cicada is reported from the upper end of Long Island. The occurrence of Brood V in New York State was first definitely established by W. T. Davis in 1914, although there are a few old records of this brood's appearing there in 1897.

Canker worms have defoliated large areas of forest lands in the Red River Valley of North Dakota and are much more numerous than usual in parts of Minnesota, Iowa, Nebraska, and Kansas.

The elm leaf beetle is prevalent in southern New England and is appearing in large numbers in Rhode Island.

We wish to call the attention of our readers to a mistake in pagination in the last number of the Survey Bulletin. Page 237 should be 235; page 238 should be 237, and page 236 should be 238.

OUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA FOR JUNE, 1931.

Damage by the pale western cutworm, which was present in outbreak form over much of Alberta and Saskatchewan, is drawing to a close. In most of the infested areas the majority of the cutworms were mature, or nearly so, towards the end of June, and reseeded could be carried on with little fear of loss. By the time the crops have been reseeded the cutworm menace will be over for this season, and with sufficient moisture there will be little or no delay in the growth of the crop. The red-backed cutworm is widespread in the northern and central areas of Manitoba, damaging grain crops, and local reports have been received of the prevalence of this species in Alberta. Cutworms of various species are also abundant and injurious to field and garden crops in sections of eastern Canada, and in parts of British Columbia.

Grasshoppers are threatening destruction to alfalfa and other crops in the Fraser Valley, British Columbia, between Lytton and Lillooet. Local outbreaks have developed in the western half of south-central Saskatchewan, and localized damage to grass and grain crops is reported from Manitoba. The moderate grasshopper outbreak of 1930 continues in southern Quebec.

Wireworms are proving injurious to a serious extent on a variety of crops throughout southwestern Ontario. In Saskatchewan it is expected that damage by these insects will be the heaviest on record.

Sod webworm larvae are proving more abundant and destructive in sections of southern Ontario, where they are attacking timothy and June grass sod, than has previously been recorded.

An exceptionally heavy flight of June beetles developed over an area of more than 4,000 square miles in southern Quebec. The flight reached its maximum towards the end of May. The beetles caused much defoliation of deciduous trees and shrubs.

Adults of the Colorado potato beetle appeared in greater numbers in Manitoba than had been anticipated, in view of the lack of snow during the past winter. Reports indicate that this species is unusually abundant in southwestern Ontario, and is likely to be severe in southern Quebec.

Large flights of adults of the beet webworm have occurred in southern Saskatchewan and in sections of Manitoba, indicating a possible outbreak of the larvae of this species on weeds and garden plants.

The San Jose scale has been found on apple trees in the Indian reservation at Night Hawk on the international boundary near Keromeos, British Columbia. The San Jose scale does not seem to flourish in British Columbia.

It is anticipated that the common red spider will prove even more injurious to raspberries in the Niagara peninsula, Ontario, than in 1930. This species is locally severe in southern Manitoba, affecting spruce and small fruits. Spider mites are epidemic on coniferous trees in Saskatchewan.

The European apple sucker has been taken in Yarmouth County, Nova Scotia, west of the previously known limits of its distribution.

Budmoths are reported as quite appreciably less numerous in the Annapolis Valley, Nova Scotia, than in 1930.

The larch case bearer is epidemic on larch throughout a large part of eastern Canada. Injury to spruce foliage by the white-marked tussock moth is reported from Nova Scotia. The fall cankerworm is severe on shade trees locally in southern Manitoba, and all elm and basswood trees in southern New Brunswick are reported to be slightly infested by this species.

Mosquitoes have been exceptionally scarce in the Ottawa district, due largely to the absence of river floods and to past and present weather conditions. Reports indicate that these insects are below average in abundance, in certain sections of Ontario and southern Quebec. The mosquito infestation in the Dry Belt area of British Columbia is reported as very slight.

G E N E R A L F E E D E R S

CUTWORMS (Noctuidae)

- Connecticut M. P. Zappe (June 20): Cutworms were causing severe injury to young apple trees, budded last year, at Durham Center. Early in the spring they ate out the buds and later fed on new leaves. They were very abundant on a variety of plants in New Haven County.
- Massachusetts A. I. Bourne (June 26): In late May and early June there was reported to us a rather severe infestation of cutworms attacking strawberry beds in the Cape section in Barnstable County. Prof. Whitcomb reports that it was probably the darksided cutworm, (Euxoa messoria Harr.) although this has not been definitely determined. He reported that practically all of the acreage of strawberries in the region around Falmouth showed infestation and in the worst infested fields from one-fourth to one-half the leaf area of the plant had already been eaten by late May. It was not at all difficult to find from 4 to 10 cutworms hidden under the mulch around one plant. He reports a serious outbreak of climbing cutworms in apple orchards in Essex County where the spotted cutworm, Agrotis ~~g-nigrum~~, was seriously damaging buds and foliage of apple trees about the middle of May.
- New York N. Y. State Coll. of Agr., Weekly News Letter (June): Cutworms were quite generally severe over western New York, particularly to tomatoes, and in one planting in Chautauqua County 68 per cent of the plants were cut off in three days. (Abstract, J.A.H.)
- New Jersey N. J. State Coll. of Agr., Weekly News Letter (June 2): Cutworms are abundant and doing considerable damage to newly set tomato plants in Burlington County.
- Pennsylvania J. N. Knull (June 11): Cutworms have been very abundant in small gardens throughout the Mont Alto State Forest.
- C. A. Thomas (June 19): Cutworms were abundant and destructive during May and June in southern Pennsylvania, eating off cabbage, tomato, bean, and numerous other small plants.
- Maryland E. N. Cory (June 22): Cutworms are very abundant in Anne Arundel County.
- W. S. Abbott (May 25): One report of very heavy damage to strawberry plants by cutworms has been received from Silver Spring.
- Virginia G. E. Gould (June 24): Cutworms of several different species have been reported causing damage to different crops in Norfolk.

One species has been common in cucumber fields, cutting off the young plants, while another species has been found feeding in the cabbage heads. Damage to home vegetable and flower gardens is common.

- Ohio E. W. Mendonhall (June 18): The climbing cutworm 'Agrotis unicolor Walk.' is very bad on garden crops in Lake County.
- Indiana J. J. Davis (June 24): Cutworms were predominating pests. During May they were primarily pests of corn but from May 25 to June 10 (especially the last few days in May and the first few in June) they were primarily garden pests. All kinds of garden crops were attacked, tomato being the most commonly damaged. Other garden crops attacked included melons, potato, and cabbage.
- Illinois W. F. Flint (June 20): More reports of cutworms have been received than for many years. The principal species have been the clay-backed (Feltia gladiaria Morr.) and bristly (Polia renigera Steph.) with a very few black cutworms (Agrotis ypsilon Rott.) now appearing.
- Kentucky W. A. Price (June 25): Cutworms have been very abundant generally over the State, but now are disappearing.
- Michigan R. Hutson (June 20): Cutworms are very abundant in orchards, and moths are appearing.
- Wisconsin C. H. Kaoniz (June 24): Cutworms are very abundant and have destroyed much corn.
- Minnesota A. G. Ruggles and assistants (June): Cutworms, though very destructive earlier in the month, are generally of minor importance at the present time. (Abstract, J.A.H.)
- Nebraska M. H. Swenk (May 15 - June 15): An aftermath of the plenitude of the army cutworm (Chorizagrotis auxiliaris Grote) in April was the heavy flight of moths of this species, much inquired about and complained of during the first half of June. All parts of the State were more or less involved in these flights, but more especially the western and central parts. (June 8 - 13): During the second week in June, from the 8th to the 13th, there was a sharp outbreak of the variegated cutworm (Lycophotia margaritosa saucia Hbn.) in southern and eastern Nebraska. The outbreak centered in severity in the southern tier of counties from Furnas County east to Gage and Lancaster Counties, and especially in southern Franklin County around Naponee, Franklin, and Riverton. Many fields of alfalfa, sweet clover, and potatoes were involved, and some of them were completely stripped of leaves. There was trouble with this climbing cutworm during the same period in northeastern Nebraska, centering about Dakota County.

D. B. Whelan (May 15 - June 15): During the second week in June a few yellow-striped armyworms (Prodenia ornithogalli Guen.) were found in the sweet clover fields in Lincoln that were being injured by the variegated cutworm.

Iowa

C. J. Drake (June 27): Several species of cutworms occur in large numbers throughout the State. Considerable damage has been done to corn, alfalfa, clover, garden, and truck crops. In some alfalfa fields the cutworms are extremely abundant, and farmers report that as soon as the hay is cut the worms start feeding on the leaves. In several instances the worms have been so abundant that they have been picked up by the hay loader and mixed with the hay to such an extent that the hay cannot be put into the barn. Several fields of corn have been badly injured or totally destroyed by cutworms.

C. N. Ainslie (June 11): Cutworms of several species are exceedingly numerous around Sioux City. All gardens are suffering and large potato growths are being cut off. A flight of the moths is attracting attention and exciting much comment. When their day hiding places are disturbed they fly in large numbers. (June 15): Damage from cutworms appears to be on the increase around Sioux City as the season advances. Potatoes are being badly injured and, in at least one field, corn a foot high is being cut off below the ground level and is being replanted in some damaged fields. (June 24): These specimens were determined by Dr. Schaus as Chorizagrotis auxiliaris Grote and C. agrotis Grote.

Kansas

H. R. Bryson (June 22): Cutworms are very abundant and general in distribution as far west as Dodge City. The variegated cutworm (Lycophotia margaritosa saucia Hbn.) has been very abundant this spring, being of almost general distribution over the entire State. The greater portion of the injury resulting from the ravages of this pest has been reported from alfalfa fields or fields adjacent to alfalfa fields. The larvae killed or seriously retarded the second crop of alfalfa, causing some fields to appear brown. In many instances the larvae migrated from the alfalfa fields to nearby corn fields, vegetable gardens, or orchards, where they continued their destruction. At Manhattan in the college orchard the moths laid eggs on the vetch plants used as a cover crop. The larvae soon devastated the vetch and migrated to the grapevines, where they began to defoliate the plants and attack the young bunches. The young peach fruit was injured considerably. The writer observed five larvae in one peach during the day. The larvae in the trees continued to feed during the day. The greater part of the injury to truck gardens was done at night. On a recent trip to Hay and Colby, R. H. Painter found variegated cutworms injuring sweet clover but not uncut alfalfa near by. At Colby they had migrated from alfalfa to elm trees and other plants.

- Oklahoma C. E. Sanborn (May 23): The variegated cutworm is doing serious damage to alfalfa at Alva, Oklahoma City, Pauls Valley, Muskogee, Tulsa, and Stillwater.
- Arkansas D. Isely (June 23): There has been an outbreak of unusual severity of the variegated cutworm, during the latter part of May and the early part of June. This outbreak occurred along the Mississippi and Arkansas Rivers, from the northwestern corner of the State to the east central part. Most of the infestations were centered around alfalfa fields from which the worms moved to destroy adjoining crops of corn and cotton.
- Mississippi State Plant Board, Press Release (June 1): In one case in Washington County 160 acres of spring alfalfa was destroyed by the variegated cutworm.
- Colorado C. P. Gillette (June 25): The red-backed cutworm (Euxoa ochrogaster Guen.) is very abundant in southwestern Colorado. Chorizagrotis sp. and the pale western cutworm (Porosagrotis orthogonia Morr.) are very abundant in eastern and southern Colorado.
- Utah G. F. Knowlton (June 6): Cutworms are seriously damaging many fields of sugar beets in the area west of Springville. Twenty acres in one field had to be replanted because of this damage, and large areas in other fields are bare at the present time. Injury to beets in the Sevier Valley has been reported. Four acres of beets were destroyed west of Provo. (June 10): Cutworms have been causing damage to sugar beets in several fields in Boxelder, Cache, and Utah Counties.
- Oregon L. P. Rockwood (June 1): Moths of A. ypsilon Rott. are somewhat more numerous than in 1930 in bait traps on land over-flowed until early May. No damage is being done.
- ARMYWORM (Girphis unipuncta Haw.)
- West Virginia L. M. Peairs (June 23): The armyworm is destructive to corn and garden crops in various places.
- Virginia H. G. Walker and G. E. Gould (June 24): The armyworm outbreak in eastern Virginia reached maximum proportions in late May and caused severe damage to some fields of oats, rye, wheat, and corn in five counties. Two reports were received of damage about June 8 to fields of rye and corn. Counts made in late May showed that over 88 per cent of the caterpillars were parasitized by tachinid flies. Moths from the May outbreak began to appear about June 15.
- C. R. Willey (June 5): Specimens of armyworms were received from Ruark, Middlesex County, on June 2, with the following:

statement: "Last week just as my wheat was in bloom on some pasture land the worms seemed to start in the same place as they did last fall and in two days had completely destroyed all the blades of wheat as well as the stand of grass, which was about 6 inches high. There are three larger farms a few miles away entirely demolished already." At least 95 per cent of the specimens were infested with parasitic eggs which I take to be tachinid flies.

North Carolina C. H. Brannon (June 10): Serious damage by armyworms has occurred in Halifax, Iredell, New Hanover, and Currituck Counties.

Ohio T. H. Parks (June 24): Armyworms appeared in Franklin County June 20 and in the past four days have been stripping several rye fields of their foliage and are feeding in some wheat fields. They have already begun to migrate to corn and have destroyed about 10 acres of corn in 3 days on a farm 4 miles east of Columbus. The infestation in Franklin County has been reported only in the southern half of the county and usually starts in rye fields. Reports also come from Pickaway, Fairfield, Clinton, and Madison Counties.

Indiana J. J. Davis (June 3-9): The common armyworm was abundant and destructive to barley, wheat, oats, and corn in southern Indiana. Definite reports show general abundance in Posey, Gibson, Warrick, Harrison, and Monroe Counties.

Illinois W. P. Flint (June 20): Armyworm outbreaks have occurred throughout the southern part of the State, but are not occurring in the central area. In most cases the outbreaks have been of only moderate intensity. In a few instances very large numbers of worms have been present in the infested fields.

Kentucky W. A. Price (June 25): The armyworm outbreak covered practically all the State except the eastern mountainous section, attacking corn and bluegrass. Its first appearance was noted at Hopkinsville on May 23; Lexington, June 2, and Maysville, June 6. They began pupating at Lexington in numbers on June 16.

Iowa C. J. Drake (June 17): The first armyworms were reported in Iowa yesterday, June 16. The worms were noted in large numbers in a 60-acre field of corn about 20 miles south of Des Moines and at Logan, Iowa. At Logan the worms completely destroyed 6 acres of corn before they were observed. During the latter part of May and the fore part of June armyworm moths were noted in large numbers flying around lights. (June 27): Outbreaks are taking place in Cerro Gordo, Crawford, Logan, and Monona Counties. At Clear Lake the armyworms have totally destroyed a 20-acre field of rye.

C. N. Ainslie (June 18): An outbreak of the armyworm is reported from near Salix, 25 miles south of Sioux City. Corn appears to have suffered the worst from the attack.

Missouri

L. Haseman (June 22): In several counties an outbreak of armyworms appeared. The worms were practically mature before any of the farmers reported them. West central Missouri has many heavily infested clover and alfalfa fields. The worms are practically all of the pale variety this year. A few moths have already appeared (June 22) and practically all of the worms are almost full-fed. No migration occurred, owing to the excessive supply of vegetation where they hatched.

Nebraska

M. H. Swenk (May 15 - June 15): The month of May was cool and there were large flights of the moths of the armyworm beginning about May 22. The first report of such an outbreak came from Thayer County on June 16 where the armyworms were damaging a rye field. This is a very early date for armyworm damage in Nebraska. For comparison armyworms of the first brood were reported as doing damage in 1921 on June 20, in 1919 and 1927 on June 22, in 1912 on June 23, and in 1930 on June 28, and still later in other years.

Kentucky
and
Tennessee

A. C. Morgan, J. U. Gilmore, and J. Milam (June 22): The true armyworm was the cause of considerable damage in Christian County, Ky., and also in Montgomery County, Tenn. Grain fields in many instances were completely defoliated and often half the immature heads were cut off.

Arkansas

D. Isely (June 23): Local injury by Cirphis unipuncta was associated with the variegated cutworm outbreak in the eastern part of the State.

Mississippi

St. Plant Bd., Press Release (June 1): In Sunflower County, on one plantation of 200 acres, all oats were badly damaged by a worm which was thought to be the true armyworm of the Northern States. Prof. Harned states that this is the first record of this insect assuming the army habit and causing so much damage in Mississippi. The worms were reported as numerous as one to each square inch. The damage occurred so suddenly that control measures were not used in time to do much good. Parasitic flies were observed attacking the worms in large numbers, and it is believed that no damage will occur from a later generation.

Texas

F. L. Thomas (May 27): The armyworm is still causing severe losses in 18 counties in north central Texas from Dallas County westward to Concho County.

Utah

G. F. Knowlton (June 1): Armyworms seriously damaged 3 acres of sugar-beets at Goshen. (June 6): The armyworm is causing damage to sugar-beet fields in the low areas west of Springville, and northeast of Benjamin.

PAINTED LADY (Vanessa cardui L.)

- Indiana J. J. Davis (June 7, 11, 12): The thistle caterpillar, V. cardui, was reported noticeably abundant on Canada thistle at Logansport, June 7, Fowler, June 11, and Anderson, June 12.
- Minnesota A. G. Ruggles and assistants (June): This insect is occurring in rather unusual numbers and destroying Canada thistle over a wide area in southwestern Minnesota. (Abstract, J.A.H.)
- Iowa C. J. Drake (June 27): The thistle butterfly is extremely abundant and occurs in almost every county in the State. Some farmers report large patches of Canadian thistle practically destroyed by the feeding of these caterpillars. The Canadian thistle seems to be more readily attacked than the other species. It has not been reported as doing any damage to cultivated plants.

GRASSHOPPERS (Acrididae)

- Georgia H. S. Adair (June 24): Grasshoppers (Melanoplus femur-rubrum and other species) have been rather abundant in some places around Albany since the middle of May. They have recently been reported injuring peaches in an orchard near Albany and have been observed feeding some on pecan leaves in orchards where they are abundant and the grass and weeds have died because of dry weather leaving the pecan as the only available green food.
- Ohio T. H. Parks (June 23): Grasshoppers are moderately abundant. They are just hatching in pasture fields and will be serious in some localities.
- Kentucky W. A. Price (June 25): Grasshoppers are very abundant on tobacco and alfalfa.
- Minnesota A. G. Ruggles and assistants (June): Grasshoppers are appearing in rather large numbers in the extreme northwestern part of the State and in the counties immediately north and west of Minneapolis and St. Paul. (Abstract, J.A.H.)
- North Dakota J. A. Munro (June 17): According to reports I have received on the grasshopper situation in various parts of the State, I should judge that it is the only insect problem to cause real alarm. I have already had several reports from farmers and county agents in the eastern counties that the young hoppers have already taken garden stuff, some small grains, and alfalfa. Directions have been sent in response, to aid in control. I understand that hoppers are very abundant at Minot, Ward County, and that the county agent there has been directing control measures over a fairly large territory.

- South Dakota H. C. Severin (June 10): Grasshoppers are reported as already severe on small grain in Charles Mix, Brule, Tripp, Lyman, Mellette, Jones, Jackson, Hughes, Stanley, and Haakon Counties. Some trouble also in Perkins, Corson, Clay, and Bon Homme Counties.
- Missouri L. Haseman (June 22): Waste places, meadows, and pastures are literally alive with grasshopper nymphs recently hatched, mostly apparently of the red-legged species (M. femur-rubrum DeG.). We are certain to have a real outbreak where steps are not taken to destroy the nymphs.
- Nebraska M. H. Swenk (May 15 - June 15): The outstanding entomological development in Nebraska during the period here covered has been the outbreak of grasshoppers, mainly of the two-striped grasshopper (Melanoplus bivittatus Say) in Boyd and surrounding counties in the northeastern part of the State, this being a south-eastward extension into Nebraska of a general outbreak covering more than a thousand square miles in southeastern South Dakota. The first reports of damage in Nebraska came from eastern Boyd County during the third week in May, when quarter-grown grasshoppers were found in abundance attacking alfalfa and other crops, with the pests still hatching in numbers from the pastures, hay meadows, and stubble fields. This outbreak extended during early June to include all of Knox, northern Holt and Rock, all of Boyd, and the eastern part of Keyapaha Counties. Three other areas of grasshopper trouble that have developed in Nebraska during the last few days of May and the first half of June include (1) a sandhill infestation in the valley alfalfa and oat fields from Greeley County west to Grant and Arthur Counties and less intensely to Morrill County; (2) a southwestern infestation from Perkins County south to Dundy County and east to Furnas County, in which area there is at this time promise of serious trouble in numerous localities during June and early July; and (3) a similar area centering in Adams and Clay Counties, where the grasshoppers started hatching in abundance in early June and threaten damage. The damage in these three areas does not promise to be as heavy as in the northeastern area. The entire southeastern part of Nebraska, from Clay County east to the Missouri River, and from Nemaha County to Washington County, is having an unusually large hatch of grasshoppers, with some damage already evident in alfalfa fields and in vegetable and flower gardens.
- Kansas H. R. Bryson (June 17): Grasshoppers are reported doing some damage at Courtland.
- Oklahoma C. F. Stiles (June 22): Various species of grasshoppers are very abundant in southern and southwestern Oklahoma.
- Texas F. L. Thomas (June 23): Grasshoppers are moderately abundant in west central, northern, and northwestern Texas (57 counties).

- Colorado C. P. Gillette (June 26): Grasshoppers (Melanoplus sp.) are more abundant than they have been for many years.
- Nevada G. G. Schweis (June 26): Grasshoppers are very abundant in western Nevada.
- Arizona C. D. Lebert (June 24): Several species of grasshoppers are very numerous in the Valley. The most prevalent in June are M. differentialis Thos., M. atlanis Riley, M. flavidus Scudd., and Trimerotropis spp. All of the above were noted on the alfalfa and grassy lands of fence rows. Some damage is reported to young citrus seedlings.
- Wyoming C. L. Corkins (June 23): Grasshoppers are very abundant and apparently all of central and northeastern Wyoming is affected. Sheridan, Converse, Natona, Washakie, and Park Counties are reporting damage.
- Utah G. F. Knowlton (June 6): Grasshoppers are still damaging strawberries in parts of Utah County, and are beginning to cause slight injury to beets. At the present time they are threatening damage to alfalfa, grain, and beets in the Elberta and Genola areas. (June 16): Grasshoppers are stripping the leaves from wheat and attacking the heads in the area west of Garland where wheat fields adjoin range land. M. atlanis Riley and Tulocara ellioti Thos. are the most abundant species found and about 2 per cent of these have become adult. A few adults of M. bivittatus Say were also taken. Part of one alfalfa field southwest of Penrose has been stripped of leaves by grasshoppers, M. atlanis being the most abundant form with about 5 per cent of the specimens taken having become adults. Barley in this area was being damaged by M. bivittatus and M. atlanis.
- Oregon Oreg. Agr. Coll., Insect Pest Report (May): C. A. Henderson reports that grasshoppers started hatching in the Klamath district May 1, and the hatching season is now in full swing. Territory involved includes Chewaucan Valley, Sycan Valley, Upper Klamath Marsh, Sprague River, Fort Klamath, head of Williamson Modoc Point, Klamath Agency, and Lower Klamath Lake, and there are a few hoppers in Tule Lake. Klamath and Lake Counties jointly are poisoning over a half million acres, using about 25,000 pounds poisoned bran mash daily.
- L. P. Rockwood (May 31): First-stage larvae of Melanoplus sp., probably femor-rubrum, appeared May 31. It is too early to predict abundance.

WIREWORMS (Elateridae)

- Vermont H. L. Bailey (June 23): Wireworms are reported as doing much damage to corn at Chelsea.

- New York N. Y. State Coll. of Agr., Weekly News Letter (June): A. W. Rawlins reports that wireworms are working in potato seed pieces in Wyoming County. C. L. Messer, jr., reports that in one field where the stand was uneven, underground stalks were examined and were found to be chewed, probably by wireworms, as the field had been in sod several years and was not fall-plowed in Cayuga County. The wheat wireworm (Agriotes mancus Say) was seriously infesting tomato plantings in western New York. In one field in Genesee County 20 per cent of the plants were killed by this insect. (Abstract, J.A.H.)
- Pennsylvania C. A. Thomas (June 23): Probably because of the cool weather in May wireworms have caused considerable injury in Pennsylvania so far this season. A survey in mid-May to mid-June showed that A. mancus was destructive to corn and oats in Allegheny, Mercer, Crawford, and Erie Counties. The above and Melanotus communis Gyll. and Pheletes agonus Say are the three principal economic wireworms of this State. The drought of last season was evidently no deterrent to this year's wireworm activity.
- Maryland E. N. Cory (June 26): Wireworms are causing 20 per cent injury to tobacco at Birdsville, Anne Arundel County. A count of two rows totaling 118 plants to the row showed 22 injured; two days afterwards showed 41 injured.
- South Carolina J. N. Tenhet (June 11): First adults of Foristonotus uhleri Horn of this season were taken at Fairfax June 5.
- Ohio T. H. Parks (June 24): Wireworms are causing much damage to corn and garden crops this year, more than for several years.
- Kentucky W. A. Price (June 25): Wireworms are moderately abundant in Calhoun.
- Michigan R. Hutson (June 20): Wireworms are very abundant, mostly on muck.
- Iowa H. E. Jaques (June): Wireworms are moderately abundant in scattered localities throughout the State.
- Nebraska M. H. Swenk (May 15 - June 15): Wireworms were injurious to bottomland corn in Pawnee County during the last week in May.
- Arkansas D. Isely (June 23): Three local infestations of Melanotus sp. were reported from Foinsett County.
- Louisiana W. E. Hinds (June 23): Wireworms are moderately abundant and injuring early potatoes in southern Louisiana.
- Wyoming C. L. Corkins (June 23): Wireworms are moderately abundant. Some damage in the dryland region of the eastern part of the State.

Utah G. F. Knowlton (June 13): Wireworms are moderately abundant. Some damage in the dryland region of the eastern part of the State.

A WIREWORM (Heteroderes laurentii Guer.)

Alabama K. L. Cockerham (May 30): There has been injury by this wireworm to Irish potatoes in Baldwin County, Alabama. Injury to the commercial crops this spring is far greater than at any time since this species was discovered in southern Alabama. Many individual crops show injury to more than 50 per cent of the potatoes harvested, and reports, by the government inspectors of the Bureau of Markets, show that damage to all cars inspected by them at some of the shipping platforms for the last week has averaged 25 per cent or more. Nearly every car shipped since May 15 has shown some "worm injury." (June 4): On this date Irish potatoes were found severely damaged by wireworms. The species responsible for the great bulk of the injury in St. Elmo, Mobile County, is H. laurentii.

Florida and Alabama O. T. Deen (June 8): On a short scouting trip during the first week of June the following localities and counties were found as new points of infestation for the introduced wireworm H. laurentii: Bay Minette and Perdido, Baldwin County, Ala.; Freemanville and Canoe, Escambia County, Ala.; McDavid, Gonzalez, Olive, and Gulf Point, Escambia County, Fla.; and Pace and Milton, Santa Rosa County, Fla. This was the first time that adults of this species have been collected in Florida so far as we know.

Mississippi H. Dietrich (June 20): The first adults of H. laurentii this year were taken at light on June 20 in Perry, George, and Greene Counties. No injury of larvae has been noticed.

WHITE GRUBS (Phyllophaga spp.)

Ohio E. W. Mendenhall (May 28): May beetles are quite plentiful in Columbus and vicinity and reported as doing damage to plum leaves.

Illinois C. C. Compton (June): Heavy flights of June bugs occurred on June 3 and succeeding nights in Arlington Heights.

J. H. Bigger (June 15): White grubs are very abundant. They destroyed 20 acres in one field in Cass County and are now ready to pupate.

Iowa C. J. Drake (June 27): White grubs, Brood A, are active in feeding and have not as yet started to transform to the pupal stage. During 1930 white grubs destroyed a large number of timothy, bluegrass, corn, and pasture fields in the eastern and southern parts of Iowa. The total damage in the State amounts to

several acres of a 150-acre bluegrass pasture field. In the old bluegrass sod it would be possible to stake off an acre or more of the ground on which it would be impossible to find a living plant of any kind. Population in the totally devastated fields runs from 6 to 13 grubs per square foot.

H. E. Jaques (June): White grubs are very abundant in O'Brien, Union, Wayne, Marion, Black Hawk and Buchanan Counties.

North Dakota

J. A. Munro (June 16): Specimens of white grubs were sent in from Hettinger with the report that they were causing serious injury to gardens there.

Nebraska

M. H. Swenk (May 15 - June 15): Pasture lands, hay meadows, and lawns in northeastern Nebraska, from Thurston County to Holt County and south to Dodge County, were again reported as being injured by white grubs during the last week in May and the first half of June. A study of the grubs indicated that the species chiefly responsible was E. rugosa Melsh. Strawberry beds in the same region were likewise frequently reported as severely injured.

Kansas

H. R. Bryson (June 6): White grubs are moderately abundant, injuring strawberry beds at Independence and Fort Scott.

Mississippi

R. B. Deen (June 19): May beetles have been very abundant this spring in Lee County. Damage to young pecan leaves has been noticed in several places. Slight injury was noted on pecans in Lincoln County on June 20.

Utah

G. F. Knowlton (June 13): White grubs are doing damage in spots in a few beet fields at Goshen.

JAPANESE BEETLE (Popillia japonica Newm.)

Pennsylvania

L. L. Guyton (June 23): The Japanese beetle is moderately abundant in Harrisburg. The first appearance was on June 23.

CEREAL AND FORAGE - CROP INSECTS

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

- Ohio T. H. Parks (June 24): The Hessian fly is on the increase after two years of comparative absence. A field of early-sown wheat near Columbus was found today to be seriously infested, with many broken straws. The annual wheat insect survey has not yet commenced but it is apparent that this insect has increased greatly since last year.
- Illinois J. H. Bigger (June 15): The Hessian Fly is very abundant in western Illinois. Much wheat was going down in some counties, May 21.
- Kentucky W. A. Price (June 25): The Hessian fly is moderately abundant.
- Iowa H. E. Jaques (June): The Hessian fly is very abundant in Pottawattamie County.
- Nebraska M. H. Swenk (June 22): The Hessian fly is moderately abundant in southeastern Nebraska, though there has been no commercial damage as yet.
- Kansas H. R. Bryson (June 22): Dr. R. H. Painter reports a light infestation on spring wheat at Manhattan extending west to Salina with a heavier infestation near Lindsborg and Lyons. Some fields were found in a recent trip to western Kansas near Hays, Colby, and Dresden, in which 100 per cent of the plants were infested.
- Missouri L. Haseman (June 22): The spring brood of larvae has caused comparatively little damage to wheat over most of the State, but the fields are generally infested, and with favorable conditions we may have a heavy outbreak this fall.
- Oregon M. M. Reeher (June 1): Some fields of spring wheat in Washington and Yamhill Counties show rather heavy infestations. Hot dry weather has prevented the emergence of the second generation of flies to date.

ENGLISH GRAIN APHID (Macrosiphum granarium Kby.)

- Indiana J. J. Davis (June 24): The wheat aphid (M. granarium) was abundant and apparently destructive to wheat heads at Lyons, June 8. They were later reported abundant on wheat heads at Marion, June 20, and Rensselaer, June 22.

WHEAT JOINT WORM (Harmolita tritici Fitch)

Oregon

Oreg. Agr. Coll., Insect Pest Report (May): T. R. Chamberlin reports that approximately 5 per cent of the wheat joint worms were out of the stubble by May 8 in the Molalla district. The parasite Eurytoma parva Phillips had barely begun issuance. Joint worms and E. parva were all out on May 26, adult joint worms being rather scarce and E. parva the more numerous. In late May the parasite Ditropinotus aureoviridis Cwfd. was still in the larval state. The weather seems to have been favorable for a heavy infestation of wheat.

PLAINS FALSE WIREWORM (Elcodos onaca Say)

South Dakota

H. C. Severin (June 10): Plains false wireworms are reported as causing severe damage to small grain and flax in Stanley and Haakon Counties.

Texas

F. L. Thomas (June 23): False wireworms are very abundant at Plainview, also in Floyd, Hale, Lamb, and Swisher Counties.

A TENEBRIONID BEETLE (Blapstinus gregalis Casey)

Montana

G. A. Mail (June 5): I would like to report that the tenebrionid B. gregalis is this spring doing considerable damage to wheat in central and western Montana. In certain sections they are so numerous that under each clod of earth in a field there will be 15 to 20 beetles, and a conservative average in areas where they are doing the most damage would be 100 to the square yard. Both spring and winter wheats are being attacked and the insect is also recorded as attacking sugar beets. The beetle seems to be widespread but the localities where the most severe injury is reported are north of Great Falls.

A LEAFHOPPER (Deltoccephalus configuratus Uhler)

Nebraska

M. H. Swenk (May 15 - June 15): A few wheat fields in Scotts Bluff County were so heavily infested with the leafhopper D. configuratus during the first week in June that the plants were killed out to a considerable extent.

SAY'S PLANT BUG (Chlorochroa sayi Stal)

Utah

G. F. Knowlton (June 22): A serious outbreak of Say's plant bug is occurring on Bountiful Bench. The adult bugs are extremely abundant, and attacking the heads of wheat, one to four bugs being present on nearly every head in the fields examined.

APPLE GRAIN APHID (Rhopalosiphum prunifoliae Fitch)

Michigan

R. H. Pettit (June 26): An epidemic is raging in the grain fields of Michigan. Reports are being received daily that the heads of wheat are packed full of lice. An examination of all specimens sent in thus far indicates the presence of the northern grain aphid.

CORN

CHINCH BUG (Blissus leucopterus Say)

Ohio

T. H. Parks (June 20): Young bugs are now appearing on wheat and foxtail grass in western Ohio. Examinations of wheat and barley fields indicate that there will be many of these bugs in July, and county agents are preparing to assist farmers to protect their corn.

Illinois

W. P. Flint (June 20): The moderately heavy rains occurring during the first part of June were not sufficiently frequent to cause any great reduction in the infestation. Young bugs are now hatching in very large numbers and the infestation will apparently be heavy enough to cause slight to severe damage over the southcentral part of the State from Fulton and Champaign Counties southward to Randolph and Perry Counties. The insect is numerous enough to cause heavy losses in Christian, Montgomery, Bond, Clinton, and Washington Counties.

Missouri

L. Haseman (June 22): Chinch bugs are more abundant through central Missouri from the Kansas line to the Illinois line than they have been in many years. Unusually favorable weather for the development of wheat, coupled with the late migration of the bugs, has apparently prevented severe damage to wheat. On June 22, while the adults are still mating and ovipositing, early hatched nymphs are fairly covering the base of corn, oats, and wheat plants, where the fields are badly infested. Many cornfields are infested with the old bugs owing to the late flight and by the first of July we are expecting the migration of the young bugs from wheat to corn and our farmers are prepared to fight them with barriers.

Kansas

H. R. Bryson (June 22): Chinch bugs are very abundant. Correspondence indicates that this insect is a menace in southeastern Kansas.

Arkansas

D. Isely (June 23): Local injury by chinch bugs to corn has been reported from a number of counties in the eastern part of the State.

Mississippi

St. Pl. Bd., Press Release (June 8): Several complaints of chinch bugs have been received from various sections of Mississippi. They are probably more abundant this season than usual, according to Prof. R. W. Harned, on account of the prolonged drought of last summer which was very favorable for them. They cause the greatest damage in this State to corn and oats, generally feeding in large numbers around the roots, inside the leaf blades, and on other parts of the plants. Serious injury to corn usually occurs when this crop is adjacent to oats.

WHITE-LINED SPHINX (Celerio lineata Fab.)

Iowa

C. N. Ainslie (June 8): A complaint that corn on low land was being eaten by these worms was investigated and it was found that numerous larvae had wandered away from dock (Rumex sp.) and that corn had been injured but not seriously. The larvae were of all sizes and appeared to relish the corn diet, a most unusual food for the species.

Colorado

C. P. Gillette (June 26): This insect is very abundant, mostly on weeds at Greeley and Collins area.

CORN EAR WORM (Heliothis obsoleta Fab.)

Maryland

E. N. Cory (June 22): Corn ear worm moths were observed about June 15 in small numbers.

Nebraska

D. B. Whelan (May 15 - June 15): The first generation began hatching about June 10. Adults, eggs, and newly-hatched larvae were found on corn plants on June 15 at Lincoln.

Alabama

K. L. Cockerham (June 5): The corn ear worm is beginning to show up as a serious pest on early corn at Foley. A report on one-half carload for market showed approximately 85 per cent injury.

Mississippi

R. W. Harned (June 19): Correspondents at Glendora, Tallahatchie County, and Brooksville, Noxubee County, sent to this office on June 12 and 13 specimens with the information that these insects were abundant on young corn and were causing considerable damage. This insect was also reported as causing considerable injury to the tomato crop at Long Beach, on June 12.

Louisiana

W. E. Hinds (June 23): The second generation of the corn ear worm is moderately abundant in general. Parasitism by Trichogramma minutum Riley is developing in the eggs more numerously, and earlier in the season than is the case with eggs of Diatraea saccharalis Fab.

SOUTHERN CORN STALK BORER (Diatraea zeacolella Dyar)

- North Carolina C. H. Brannon (June 26): The larger corn-stalk borer is causing widespread damage to corn over the State.
- Florida J. R. Watson (June 22): The larger corn stalk borer is doing considerable damage to corn in fields above Monticello where rotation of crops is not practiced. The damage has been aggravated by dry weather (F.W.Walker).

CORN BILLBUGS (Sphenophorus spp.)

- Michigan R. Hutson (June 15): On June 15 I saw an infestation by one of the billbugs at Alicia, where these pests were taking about one-third of a crop of 80 acres of corn.
- South Dakota H. C. Severin (June 10): Sphenophorus aequalis Gyll. is reported at White Lake attacking corn.

SOD WEBWORMS (Crambus spp.)

- Ohio T. H. Parks (June 24): There was more damage to corn during June from Crambus larvae than I have ever seen in one year. The injury was general over the State and lasted until almost the end of the month.
- Indiana J. J. Davis (June 24): Webworms (Crambidae) were more often reported attacking corn than any other insect. Reports were received from May 23 to June 12 from Bluffton, Crawfordsville, Decatur, Franklin, Greenfield, Logansport, Matthews, Pittsboro, Portland, and Tipton. Many other reports were received by telephone from Tippecanoe and adjoining counties.
- Illinois J. H. Bigger (June 15): A very heavy moth flight of leather colored sod webworms, Crambus trisectus Walk., was noted continuing from June 2 to June 10 in western Illinois. This flight was observed during night driving.
- W. P. Flint (June 20): Sod webworms have been reported throughout central Illinois as causing serious injury. In many cases the injury has occurred in fields which were in oats in 1930 and which had become very grassy by fall. Very heavy flights of adults are taking place at the present time, the species most abundant being C. trisectus.
- Iowa C. J. Drake (June 27): Sod webworms (two species) are extremely abundant at Toledo, many corn fields having been injured.
- Kentucky W. A. Price (June 25): Sod webworm has caused much damage to corn and tobacco at Nicholasville, Muir, Litchfield, Tollesboro and Woodlawn. The moths are very abundant. They can be gathered by the quart about porch lights at night in Lexington. They clog radiators of machines at night.

CLOVER

GREEN CLOVER WORM (Plathypena scabra Fab.)

Illinois

C. C. Compton (June 13): Adults of the green clover worm are much more numerous than usual for the Des Plaines section of Illinois. Thirty to fifty moths have been taken in the moth traps every night for the past ten days.

Iowa

C.J. Drake (June 27): The green clover worm is extremely abundant throughout the State and doing considerable damage to alfalfa, clover, and peas. It is causing a considerable amount of annoyance on peas in gardens.

A LUCANID BEETLE (Pseudolucanus dama Fab.)

Michigan

R. H. Pettit (June 18): I received samples this morning of Lucanus, probably dama, working in a clover field in Mecosta County. The creatures are apparently swarming in great numbers in the clover field. The county agent at Big Rapids writes me that the farm is literally full of holes, or rather this particular spot on the farm is literally full of holes. They are worse in a spot of clover seeding, where every particle of clover vegetation was eaten into the ground, and where they had worked the ground was as bare as a floor as far as clover was concerned. This is quoting County Agent E.E. Thwing. He says they come back to the field every night in large numbers.

CLOVER LEAF WEEVIL (Hypera punctata Fab.)

Oklahoma

C. E. Sanborn (May 28): The clover leaf weevil is serious in alfalfa at Guthrie, Stillwater, and doubtless other places.

ALFALFA

ALFALFA WEEVIL (Phytonomus posticus Gyll.)

Nevada

G. G. Schweis (June 26): The alfalfa weevil is very abundant in western Nevada, causing serious damage to first-crop alfalfa.

Utah

G. F. Knowlton (June 21): The alfalfa weevil is moderately to very abundant in Uintah Basin and some other parts of northern Utah.

Oregon

Oreg. Agr. Coll., Insect Pest Report (May): The alfalfa weevil is moderately abundant in Jackson County and scarce on banks of the Snake River in Malheur County.

A CURCULIONID (Tanymecus confertus Gyll.)

Nebraska

M. H. Swenk (May 15 - June 15): During the third week in May a field of alfalfa in Keith County, seeded the preceding August, was found to show many bare spots in which the alfalfa and the weed growth had both been eaten. An abundance of the beetle T. confertus in this field indicates the possibility that it may have been responsible for the damage.

A PLANT BUG (Adelphocoris lineolatus Goeze)

Iowa

C. J. Drake (June 27): The alfalfa plant bug is extremely abundant in alfalfa fields in Story County and is spreading rapidly in various directions. It seems to be migrating faster northward than in other directions in the State. In some alfalfa fields in Story County it is possible to collect them in great numbers by sweeping the alfalfa. This insect was first found in Iowa by Dr. H. H. Knight on June 18, 1929.

THREE-CORNERED ALFALFA HOPPER (Stictocephala festina Say)

Arizona

C. D. Lebert (June 24): The three-cornered alfalfa hopper is quite abundant in alfalfa fields in the Salt River Valley.

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis Hbn.)

Florida

J. R. Watson (June 22): The velvetbean caterpillar appeared at Belle Glade in the Everglades on June 10 and is now abundant on velvetbeans, soy beans, snap beans, and peanuts. This is at least two weeks earlier than last year. (R.N. Lobdell.)

ZEBRA CATERPILLAR (Mamestra picta Harr.)

Nevada

G. G. Schweis (June 26): Mamestra ceramica picta Harr. observed damaging alfalfa fields in the vicinity of Fallon.

SUGARCANE

SUGARCANE BEETLE (Eutheola rugiceps Lec.)

Kentucky

W. A. Price (June 25): Rough-headed corn stalk beetles are damaging corn at Donansburg.

Mississippi

R. W. Harned and assistants (June): Injury to young corn by these insects was reported from Cleveland May 20, from Scobey on June 2, and from Byhalia on June 15. Injury to corn and sugarcane was reported from Philadelphia on June 4.

Louisiana

J. W. Ingram and E. K. Bynum (May 29): A survey has been made from Raceland to Lafayette and from Houma to Alexandria. Beetle injury did not run over 1 per cent, except at Franklin and at two sugarcane plantations. Around Franklin the injury was 10 per cent. On a plantation near St. Martinville one field had damage amounting to over 40 per cent, the other fields having about 15 per cent injury. At a plantation near Morgan City one field had about 3 per cent damage.

W. A. Douglas (May 27): Reports have come to the Rice Experiment Station that the sugarcane beetle has been injuring rice to some extent.

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana

W. A. Douglas (June 15): Several examinations of cornfields in the vicinity of Crowley were made last week, and heavy infestations were found in all fields except one. The stalks were practically 100 per cent infested, and the damage was severe enough to cause the stalks to die and fall over.

W. E. Hinds (June 23): The sugarcane borer has started on the second generation. The infestation is generally light as yet although some centers of heavy infestation have been found in corn which was planted early and is now in tassel and developing ears. Parasitism by Trichogramma minutum Riley is developing in the eggs of Heliothis obsoleta, especially, and earlier in the season it was found in the eggs of Diatraea saccharalis Fab.

Monthly Letter of the Bureau of Entomology, Number 205. (May): On May 8 H. A. Jaynes of the Bureau of Entomology sent by airplane from Trujillo, Peru, 1,075 adults of Ipobracon rimac Wolcott, a hymenopterous parasite of the sugarcane moth borer. The shipment arrived at Miami, Fla., on May 11, and was then sent by express to New Orleans, arriving there on May 13. Three hundred and twenty-seven of the wasps were alive and in good condition. The total trip was less than 6 days, whereas by ship and train it would have required about 22 days. The percentage of survival was better by airplane, although the parasites were not kept at low temperatures, as they are when sent in the ordinary way.

RICE

RICE WATER WEEVIL (Lissorhoptrus simplex Say)

Louisiana

W. A. Douglas (June 26): The rice water weevil situation is ABOUT as usual. The adults have caused some feeding scars on the rice plants, but not enough to be called injurious. Larvae are present in most fields. The farmers are beginning to realize that this weevil is not an injurious pest of rice.

F R U I T I N S E C T S

APPLE

APHIDS (Aphiidae)

New Jersey N. J. State Coll. of Agr., Weekly News Letter (June): Fruit aphids increased extremely rapidly during the early part of the month in practically all parts of the State. (Abstract, J.A.H.)

APPLE APHID (Aphis pomi DeG.)

New York N. Y. State Coll. of Agr., Weekly News Letter (June): During the second and third weeks in June green aphids became quite abundant in the Hudson River Valley, but not numerous enough to be considered serious. (Abstract, J.A.H.)

New Jersey N. J. State Coll. of Agr., Weekly News Letter (June): Green aphids were showing up in numbers by the third week in June in parts of the State. (Abstract, J.A.H.)

ROSY APPLE APHID (Anuraphis roseus Baker)

Connecticut P. Garman (June 23): An outbreak of moderate proportions, severe in some orchards or portions thereof, is reported from New Haven and Hartford Counties.

New York N. Y. State Coll. of Agr., Weekly News Letter (June): During the early part of the month rosy apple aphids increased very rapidly in the lower Hudson River Valley. By the 15th of the month the populations were so large that control measures were applied. The outbreak subsided during the third week in June in the western part of the State. They were still in an active condition on June 22 in many orchards in Monroe County and ruined as much as from 40 to 50 per cent of the fruit. (Abstract, J.A.H.)

New Jersey N. J. State Coll. of Agr., Weekly News Letter (June): Heavy infestations of the rosy apple aphid caused severe damage in southern Jersey during the first week in June. This condition prevailed to nearly the middle of the month. (Abstract, J.A.H.)

Maryland E. N. Cory (June 22): The rosy aphid is very abundant throughout the State.

West Virginia L. M. Peairs (June 23): Rosy aphids are moderately abundant at Morgantown.

North Carolina Z. P. Metcalf (May 30): The rosy apple aphid is very abundant.

Ohio T. H. Parks (June 24): The rosy aphid was quite abundant in late May and early June, but has now been largely controlled by

larvae of syrphus flies. The infestation was greatest in southern Ohio counties.

- Indiana J. J. Davis (June 24): The rosy apple aphid was abundant in many localities this spring and caused some damage. At the present time most of the aphids have disappeared.
- Illinois W. P. Flint (June 20): Rosy apple aphids are moderately abundant in southern Illinois and extremely abundant in western Illinois. Predators, principally aphid lions and syrphid larvae, are now rapidly reducing the numbers of the insect.
- Missouri L. Haseleman (June 22): The rosy apple aphid has about run its cycle. It has left a trail of great damage in many orchards.
- Nebraska M. H. Swenk (June 20): Rosy aphids are generally moderately abundant, though several orchards have serious infestations.
- Arkansas D. Isely (June 23): Rosy aphids are very abundant, and have caused unusually severe injury in the northwestern part of the State.
- Washington and Idaho Ortho News, Calif. Spray-Chemical Co. (May 13): In some unsprayed orchards rosy and green aphids were so abundant as to be literally massed about the bud clusters.

WOOLLY APPLE APHID (Eriosoma lanigerum Haasm.)

- Ohio E. W. Mendenhall (June 20): The woolly apple aphid is quite abundant on apple trees in the nursery and orchard.
- Kansas H. R. Bryson (June 22): The woolly apple aphid was reported on June 16 from Baxter Springs and Beeler.
- Washington M. A. Yothers (June 15): Many woolly aphid colonies were already well established in Wenatchee in late March and early April and became abundant during late April and May, but at this date (June 15) they have become so scarce that colonies suitable for introduction of the *Aphelinus* parasite can hardly be found. Coccinellids and syrphus fly larvae have apparently been responsible for the early destruction of these aphids.
- Oregon Oreg. Agr. Coll., Insect Pest Report (May): The woolly apple aphid is very serious on apples in the Willamette Valley.

CODLING MOTH (Carpocapsa pomonella L.)

- Massachusetts A. I. Bourne (June 26): Observations in local orchards and reports from other sections of the State show the first evidence of side-worm injury from codling moth within the last ten days. This is very evidently due to the entrance of late appearing first brood larvae.
- New York N. Y. State Coll. of Agr., Weekly News Letter (June): Very early in the month it was observed in the Hudson River Valley that pupa cases were much more numerous than in recent years. By the 9th of the month approximately 10 per cent of the moths had emerged. By the middle of the month hatching of eggs was well under way in this part of the State and by the third week in the month eggs were hatching in numbers in western New York. (Abstract, J.A.H.)
- New Jersey N. J. State Coll. of Agr., Weekly News Letter (June): Records from emergence cages indicate that at least 50 per cent of the overwintering generation have emerged as moths in the southern two-thirds of the State. By June 9 side worm injury had started in southern New Jersey. By the second week in the month side worm injury was observed to be much more abundant than usual, a large part of the fruit in Glassboro district being heavily infested. In one orchard in Gloucester County 100 per cent of the fruit was injured by first-brood worms, with a high percentage of the fruit containing as many as 8 "stings." The side worm injury continued throughout the month. (Abstract, J.A.H.)
- Delaware L. A. Stearns (June 22): The peak of the entry of first-brood larvae occurred June 7-14. This brood at its peak is less abundant than at the same time in 1930.
- Maryland E. N. Cory (June 22): The codling moth is very abundant.
- Virginia W. J. Schoene (June 23): The codling moth is very abundant at Winchester and heavy injury is expected. Dr. W. S. Hough reports that the insect is expected to cause heavy damage in the Winchester section. Eggs are being deposited in large numbers.
- North Carolina C. H. Brannon (June 13): Codling moth damage is very light in the mountains.
- Georgia C. H. Alden (June 22): The codling moth is very abundant at Cornelia. Weather conditions are ideal for multiplication. There was a heavy carry over.
- Ohio T. H. Parke (June 24): Hatching of the first brood commenced the first week of June in Lawrence County. Some worms had left the apples and were going under bands June 20. The brood is quite heavy in most orchards of southern Ohio and two cover sprays were advised for the first brood of worms during June. The situation is not alarming in other parts of the State.

- Indiana J. J. Davis (June 24): The codling moth infestations are the most threatening for many years. At Bedford the first pupa was found by Mr. Marshall June 18. At Lafayette the first moths emerged June 2.
- Illinois W. P. Flint (June 20): Emergence of adults from pupae of the overwintering larvae has nearly ceased in the southern and central parts of the State. There was a very heavy hatch of worms the first part of June and a heavier infestation than usual throughout southern and central Illinois. In many well sprayed orchards it is now very easy to find wormy fruit. If the season continues warm it will be one of the worst codling moth years we have ever experienced. First larvae were taken under bands in southern Illinois June 17; in central Illinois, June 18.
- J. H. Bigger (June 15): The codling moth is very abundant in Calhoun County. Still emerging from hibernation June 12.
- Kentucky W. A. Price (June 25): Codling moth is very abundant in western Kentucky.
- Minnesota A. G. Ruggles and assistants (June): The codling moth is reported as very abundant from a large number of localities from the southeastern part of the State. (Abstract, J.A.H.)
- Nebraska M. H. Swenk (May 15 to June 15): This spring the first overwintered larva of the codling moth pupated on April 14. This was one day earlier than the first pupation in 1930, 12 days earlier than the first pupation in 1929, and 26 days earlier than the first pupation in 1928. This early pupation would probably have led to an early emergence of moths of the spring brood if it had not been for the low temperatures prevailing during May. As it developed, the first spring-brood moth emerged this spring on May 22, 14 days later than the emergence of the first moth in 1930, 3 days later than in 1929, but one day earlier than in 1928. Pupation of the overwintered larvae steadily increased from April 14 on, and on June 15 about 85 per cent of these larvae had pupated. Emergence of the moths increased from May 22 on, and on June 15 nearly 70 per cent of the moths had emerged. Egg-laying began on May 26. On May 29, 82 eggs; by June 1, 270; by June 4, 426; and by June 15, over 1,800 had been laid by 193 moths. On June 14, 214 eggs were laid, this probably representing the crest of egg-laying. First "red-ring" stage eggs occurred on May 29, first "black-spot" eggs on June 1, and the first larvae hatched on June 2; by June 4, 16 had hatched and on June 15 they were hatching in very large numbers.
- Kansas P. M. Gilmer (June 27): The first brood is just beyond the peak of entrance at Wichita. Infestation is heavier than any time in the last six years at this date. Some poorly sprayed orchards already show 60 to 70 per cent of the fruit infested. With normal conditions for the rest of the season the third brood should be by far the heaviest in the history of the valley.

- Missouri L. Haseman (June 22): Practically all of the first-brood moths are out though in some cages we are still getting a few moths each morning. Our bait pans are catching very few at this date. Earliest worms to enter the fruit are now nearly half-grown and even in well-sprayed orchards we are finding many first-brood worms.
- R. M. Jones (June 20): Most of the spring-brood moths have emerged, approximately 95 per cent. In general, quite satisfactory control was obtained against the first brood of worms by orchardists in this section.
- Arizona C. D. Lebert (June 24): The codling moth is numerous on pear and crab-apple trees at Tempe. Many larvae and pupae were taken on the bark of the trees.
- Utah G. F. Knowlton (June 21): Larvae are appearing in moderate abundance in northern Utah.
- Washington E. J. Newcomer (June 22): Owing to almost continuous warm weather from May 20 to June 10, the spring brood developed rapidly, and apparently moths from overwintering larvae had practically all emerged by the latter date. This is the earliest finish of the spring brood in the last six years. Conditions for oviposition have been unusually favorable. An early and abundant second brood is forecast. (Yakima County)
- Wenatchee "World" (June 9): There are said to be more worms actually at work in the orchards in the Pacific Northwest today than ever before at this time of the year. Estimates as high as 25 per cent worm loss are being made by marketing agencies in connection with distribution of boxes.
- Oregon Oreg. Agr. Coll., Insect Pest Report (May): B. G. Thompson reports egg laying peak of first generation reached about June 1. In the Willamette Valley the moth is more serious than it has been for several years.
- LEAF CRUMPLER (Mineola indiginella Zell.)
- Nebraska M. H. Swenk (May 15 to June 15): In Washington County there was in some orchards an abundance of the leaf crumpler following immediately upon the close of the spring cankerworm injury.
- APPLE AND THORN SKELETONIZER (Hemerophila pariana Clerck)
- New York N. Y. State Coll. of Agr., Weekly News Letter June 8): First-brood skeletonizers are causing conspicuous damage on unsprayed trees in Niagara County.

EYE-SPOTTED BUDMOTH (Spilonota ocellana Schiff.)

Minnesota

A. A. Granovsky (June 20): Immature forms and later adults were reared from the material collected in an apple orchard near St. Paul. Larvae caused considerable damage to apple grafts. This is apparently the first record of this species from the State of Minnesota.

FRUIT TREE LEAF ROLLER (Archips argyrospila Walk.)

New York

N. Y. State Coll. of Agr., Weekly News Letter (June): During the first week in June leaf roller injury became quite severe in the Hudson River Valley. By the end of that week larvae were pupating. By the middle of the month the activity of these insects had dropped off to such an extent as to render damage by them negligible. (Abstract, J.A.H.)

LIME TREE LOOPER (Erranis tiliaria Harr.)

Minnesota

A. G. Ruggles and assistants (June): This insect is associated with the canker worm in and about Minneapolis and St. Paul where considerable damage is being done. (Abstract, J.A.H.)

CANKER WORMS (Geometridae)

Minnesota

A. G. Ruggles and assistants (June): The spring and fall canker worms are extremely abundant in the east central part of the State, extending 20 miles to the southwest of Minneapolis and St. Paul. Some orchards were completely defoliated. These insects are also doing serious damage to raspberries at many points. (Abstract, J.A.H.)

APPLE REDBUG (Lygidea mendax Reut.)

New York

N. Y. State Coll. of Agr., Weekly News Letter (June): During the forepart of the month redbug injury became conspicuously noticeable, particularly in the western part of the State. (Abstract, J.A.H.)

APPLE LEAFHOPPERS (Cicadellidae)

Massachusetts

A. I. Bourne (June 26): Leafhoppers have multiplied to a considerable extent and the foliage is beginning to show injury and some spotting of fruit is already evident. The species which has been observed thus far is the rose leafhopper.

Connecticut

P. Garman (June 23): Apple leafhoppers (Empoasca rosae L.) have developed in alarming numbers in many commercial orchards in Hartford, New Haven, and New London Counties and are doing a great deal of damage to fruit and foliage. They are more abundant than I have ever seen them at this time of the year.

- New York N. Y. State Coll. of Agr., Weekly News Letter (June): By the middle of the month these insects became very abundant throughout the State. By the third week in the month severe damage to foliage was very prevalent. (Abstract, J.A.H.)
State
- New Jersey N. J. / . Coll. of Agr., Weekly News Letter (June): Rather severe infestations of leafhoppers have been observed in a number of orchards in southern New Jersey. (Abstract, J.A.H.)
- Delaware L. A. Stearns (June 22): Apple leafhoppers are very abundant throughout the State.
- North Carolina C. H. Brammon (June 13): Leafhoppers are causing unusually widespread damage to apples in the mountains.

APPLE MAGGOT (Rhagoletis pomonella Walsh)

- New York N. Y. State Coll. of Agr., Weekly News Letter (June): The first adult flies of the season were observed in Rockland County, June 11, and emergence was well under way throughout the Hudson River Valley during the third week in the month. (Abstract, J.A.H.)

ROUND-HEADED APPLE TREE BORER (Saperda candida Fab.)

- Missouri L. Haseman (June 22): The round-headed apple tree borers were found emerging June 21. There has been considerable damage to young apple trees.

FLAT-HEADED APPLE TREE BORER (Chrysobothris femorata Oliv.)

- Michigan R. H. Pettit (May 25): This is the most destructive wood borer in Michigan. As many as nine borers were removed from one little tree 5 feet high set out last season. It is not unusual to lose two-thirds of a stand of young fruit trees if control measures are not employed.
- Nebraska M. H. Swenk (May 15 to June 15): The flat-headed borer on apple trees was complained of during the period May 15 to June 15.

PEACH

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

- Massachusetts A. I. Bourne (June 26): In southern Hampden County the work of the oriental fruit moth just appearing. The first evidence of this type of injury would be June 8 to 10.
- Connecticut P. Garman (June 23): Infestation in New Haven, Hartford, and New London Counties is generally light, judging from first-brood twig injury.

Rhode Island

A. E. Stene (June 24): The oriental fruit moth is scarce.

New York

N. Y. State Coll. of Agr., Weekly News Letter (June): During the first week in June considerable twig injury to peaches was observed in Columbia County and larvae could be found in fruit during the third week in the month, but much less numerous than at this time last year. In the western part of the State twig injury was quite noticeable during the third week in June. (Abstract, J.A.H.)

Delaware

L. A. Stearns (June 22): The first brood at its peak was much less abundant than at the same time in 1931.

West Virginia

L. M. Peairs (June 23): The oriental fruit moth is moderately abundant, infested twigs being hard to find around Morgantown.

South Carolina

L. Lutken (June 25): The oriental fruit moth is scarce in the northwestern part of the State.

Georgia

J. B. Gill (June 25): The oriental fruit moth is scarce at Albany.

O. I. Snapp (June 19): The infestation is very light at Fort Valley. Even twig injury is scarce.

Ohio

T. H. Parks (June): Injury to peach terminals is not very noticeable at Columbus. It is probable that there will be very little damage to peaches in southern and central Ohio. More of the insects are present in lake-shore counties where there was a peach crop last year.

Pennsylvania

L. L. Guyton (June 26): A survey of the peach growing districts in Erie County was made June 23. Two large orchards, the points of earliest known infestation, showed very few twigs damaged by larvae. One orchard about 5 miles removed from these showed a moderate infestation. These orchards are in the vicinity of North East. Orchards in the vicinity of Girard showed but little twig damage. Orchards in the vicinity of Beaver Falls were inspected June 24 and a moderate number of damaged twigs found.

Indiana

J. J. Davis (June 24): The oriental fruit worm is still not very conspicuous. We observed numerous injured twigs and live larvae in twigs in Harrison County, a few miles from the Ohio River, June 12. However, Mr. Montgomery's scouting has not revealed an appreciable infestation except in rare instances.

Illinois

W. P. Flint (June 20): The oriental fruit moth continues to be very scarce except in the extreme southern counties. The second brood is apparently just entering the twigs in the southern part of the State.

Tennessee

H. G. Butler (June 23): The number of larvae at Harriman infesting twigs is considerably less than at this time a year ago. This may be due to a later season or a lighter infestation.

PEACH BORER (Synanthedon exitiosa Say)

Tennessee H. G. Butler (June 23): Adult emergence began June 11 in experimental blocks at Harriman. The first recorded emergence in 1930 occurred June 20.

Mississippi R. B. Deon (June 19): The peach borer is very abundant in Lee County. Two orchards were practically killed.

PEACH TWIG BORER (Anarsia lineatella Zell.)

California S. Lockwood (June 5): The young from the spring brood of the peach twig borer are now doing some little damage to unsprayed peaches in the northern part of the Sacramento Valley.

PLUM CURCULIO (Conotrachelus nemuphar Hbst.)

Connecticut P. Garman (June 23): The plum curculio is appearing in usual abundance in New Haven County.

New York N. Y. State Coll. of Agr., Weekly News Letter (June): During the first week in June plum curculio injury was quite prevalent in the Hudson River Valley. In Dutchess County practically 100 per cent of the fruit was scarred by June 3. This very decided acceleration of the plum curculio is attributed to very warm weather which prevailed from May 26 to 29 and from June 2 to 4. By the middle of the month larvae were nearly full grown in Ulster County. In the western part of the State the greater part of the damage was to plums and prunes. (Abstract, J.A.H.)

New Jersey N. J. State Coll. of Agr., Weekly News Letter (June): For the State as a whole, plum curculio damage is much below normal and conditions have not been changed materially from those reported last month. (Abstract, J.A.H.)

Delaware L. A. Stearns (June 22): The plum curculio is very abundant in Sussex County. First-brood grubs are now in the soil.

Maryland E. N. Cory (June 22): The plum curculio is moderately abundant.

North Carolina C. H. Brannon (June 13): Curculio damage to peaches is unusually light.

South Carolina A. Lutken (June 25): The plum curculio is moderately abundant in the northwest.

Georgia O. I. Snapp (June 1): The first beetle of the first 1931 generation at Fort Valley was observed today in a soil cell. However, we are not expecting adults to begin their escape from the soil until the third or fourth week in June. Transformation is taking place much later than usual. The first transformation last year was recorded on May 23, which was considered late.

(June 15): The first adults of the new generation emerged from the soil today. This is 9 days later than the first emergence in 1930 and 19 days later than the first emergence in 1929. There has been no rain in peach orchards of this locality during the past $5\frac{1}{2}$ weeks, and therefore this record of first curculio adult emergence is perhaps earlier than that under orchard conditions, as we have kept our pupation boxes watered at intervals. The dry weather had retarded the ripening of the fruit, causing the harvesting season to be later than anticipated earlier in the season. On that account the latest variety of peaches in this locality, the Elberta, may not escape a second-brood curculio attack. We are not expecting any second-generation eggs in the field until July. (June 19): Adults of the first generation are emerging in numbers.

J. B. Gill (June 25): The plum curculio is scarce at Albany, and there has not been so much damage to peaches or plums as usually occurs.

Florida

J. R. Watson (June 22): The plum curculio is moderately abundant, though apparently less so than usual at this season.

Ohio

T. H. Parks (June 24): The plum curculio still continues to be very scarce. Very few scars can be found on apples or stone fruits.

Indiana

J. J. Davis (June 24): The plum curculio is reported abundant on plum at Otterbein June 1.

Illinois

J. H. Bigger (June 15): The plum curculio is scarce in Calhoun County. A few were observed attacking apples May 13.

Michigan

R. Hutson (June 20): The plum curculio is moderately abundant.

Tennessee

H. G. Butler (June 23): First insectary emergence of first-brood adults today, at Harriman. In 1930 the first of this brood emerged June 19.

Missouri

L. Haseman (June 22): Through central Missouri the plum curculio has been less abundant than usual. They began their work on fruits later than usual but during June they have caused considerable damage to both sprayed and unsprayed fruits. Damage on apples generally is much less than usual.

Mississippi

R. W. Harned and assistants (June): Although reported abundant from many localities, the plum curculio does not seem to be as abundant as usual over the greater part of the State. (Abstract, J. A. H.)

FLOWER THRIPS (Frankliniella tritici Fitch)

California

S. Lockwood (June 5): During May the flower thrips was responsible for slightly more than normal damage to the stone fruits, nectarines, and peaches in San Bernardino and Riverside Counties.

WHITE PEACH SCALE (Aulacaspis pentagona Targ.)

Mississippi W. L. Gray (June 20): The West Indian peach scale is very abundant on wild plum in Adams County.

TARNISHED PLANT BUG (Lygus pratensis L.)

Mississippi N. L. Douglass (June 20): ~~Eom. d. angul.~~ the tarnished plant bug has been noticed on peaches.

LEAF BUGS (Miridae)

Mississippi D. W. Grimes (June 22): Severe damage to ripe and green peaches at Pickens. Damage most serious in orchard near Locust Grove, Holmes County.

PEAR

PEAR SLUG (Eriocamptoides limacina Retz.)

Nebraska D. B. Whelan (May 15 to June 15): The first eggs of the pear slug were hatched on May 25 at Lincoln. Reports of injury to cherry and pear leaves began to be received during the first week in June.

PEAR PSYLLA (Psyllia pyricola Foerst.)

New York N. Y. State Coll. of Agr., Weekly News Letter (June): During the first week in June egg-laying was general over western New York State and by the middle of the month second-brood nymphs were quite numerous. (Abstract, J.A.H.)

Illinois W. P. Flint (June 20): The pear psylla has increased in abundance during the last month and is threatening injury in pear orchards in the Marion-Clay County section.

PEAR MIDGE (Contarinia pyrivora Riley)

New York S. R. Shapley (June 15): The pear midge is becoming quite generally abundant in Genesee County and took a heavy toll of pear this year.

CHERRY

CHERRY CASE BEARER (Coleophora pruniella Clem.)

Minnesota A. A. Granovsky (June 20): A single case with living larva was taken on an apple leaf near St. Paul. The case, which is completed and is characteristic in form, is well known to me as that of the cherry case bearer. This is evidently a first record

from the State. It is of interest to note its occurrence for the reason that this insect just recently has been reported as a serious pest in the cherry growing districts of Wisconsin and Michigan and the distribution of the species is not well determined.

BLACK CHERRY APHID (Myzus cerasi Fab.)

ew York

N. Y. State Coll. of Agr., Weekly News Letter (June): During the first week in June black cherry aphids increased very rapidly in the Hudson River Valley, where the insect was difficult to control and considerable damage occurred. (Abstract, J.A.H.)

hio

E. W. Mendenhall (June 23): Reports have been received from over the State that the black cherry aphids are bad on both sweet and sour cherry trees. Damage to leaves is noticeable.

aryland

J. A. Hyslop (June 15): I did not see a single aphid this year on a sweet cherry tree at Avanel that is usually severely infested.

tah

G. F. Knowlton (June 22): The black cherry aphid has been very abundant and damaging in Davis County orchards this spring.

CHERRY FRUITFLIES (Rhagoletis spp.)

State

ew York

N. Y. / . Coll. of Agr., Weekly News Letter (June): During the first week in June adult flies of R. fausta O.S. began emerging in the Hudson River Valley, but up to the end of the month neither this species nor R. cingulata Loew appeared to be normally abundant. (Abstract, J.A.H.)

ichigan

R. H. Pettit (June 8): The first specimens of R. fausta emerged at Gobles in Van Buren County on the 5th inst. The specimens were collected by Mr. A.E. Beyer, one of the inspectors of the State Department of Agriculture, and sent here for determination. This is a little earlier than they were observed last year. Perhaps we got the first ones out. A few advance black-bodied cherry fruit flies, R. cingulata, were captured on June 5 at Gobles by Mr. Beyer. This is the first emergence recorded for either fruit fly for 1931. Gobles usually produces flies earlier than other localities.

regon

Oreg. Agr. Coll. Exp. Sta. S. C. Jones reports that cherry fruit flies, R. cingulata, began emerging June 2 in the Salem and Dallas district, Willamette Valley. They have been emerging in increasing numbers ever since.

SAY'S BLISTER BEETLE (Pomphopoea sayi Lec.)

ennsylvania

C. A. Thomas (June 23): A number of specimens of P. sayi have just been received from Lake Ariel, Wayne County, in the north-eastern corner of the State, where they were said to be damaging roses and cherry trees.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

- New York N. Y. State Coll. Agr., Weekly News Letter (June 1): Grape leafhoppers are very numerous in Dutchess County.
- New Jersey N. J. State Coll. Agr., Weekly News Letter (June 23): Grape leafhoppers are appearing in rather large numbers in some of the orchards where nicotine has been omitted in Morris County.
- Delaware L. A. Stearns (June 22): Grape leafhoppers are very abundant throughout the State. First-brood nymphs occurred at Bridgeville June 1.

GRAPEVINE APHID (Macrosiphum illinoisensis Shim.)

- Maryland W. S. Abbott (June 3): M. illinoisensis is just appearing on grape at Silver Spring.

AN APHID (Aphis ripariae Oest.)

- Mississippi H. Dietrich (June): An aphid (Aphis ripariae) was moderately abundant on grapes at Lucedale early in June.

ROSE CHAFER (Macrodactylus subspinosus Fab.)

- Massachusetts A. I. Bourne (June 26): The rose chafer is apparently at least normally abundant on its usual host plants. In addition it has been found to be causing considerable injury to foliage of young apple trees quite generally throughout eastern Massachusetts. In the Connecticut River Valley section I have noted that beetles were scarring young forming fruit. Prof. Whitcomb reports that he has observed them skeletonizing the foliage of bush string beans in the market garden section around Waltham.
- Vermont H. L. Bailey (June 23): The rose chafer is very abundant in several sections.
- Delaware L. A. Stearns (June 22): The rose chafer is very abundant on all host plants throughout the State.
- Ohio E. W. Mendenhall (June 18): The rose chafer is quite bad on rose bushes, destroying the bloom, in Painesville.
- Indiana J. J. Davis (June 24): The rose chafer destroyed a third of a 15-acre cornfield at Winamac June 20. They were reported causing much damage to grapes and other fruits at Fort Wayne, June 9, and damaging green apples at Culver June 13.

EIGHT-SPOTTED FORESTER (Alypia octomaculata Fab.)

exas

O. G. Babcock (June 2): For the past two weeks there has been an extremely severe outbreak of an insect pest of grapevines, the vines being entirely defoliated from the attacks of this pest. At present there is a let-up in the damage of this moth.

CURRENT

CURRENT STEM GIRDLER (Janus integer Norton)

ew York

N. Y. State Coll. of Agr., Weekly News Letter (June 8): The current stem girdler is causing considerable injury in several plantings of currants in Chautauqua County.

IMPORTED CURRENT WORM (Pteronidea ribesi Scop.)

outh Dakota

H. C. Severin (June 10): The imported current worm is reported as causing usual damage on currants and gooseberries in eastern South Dakota.

braska

D. B. Whelan (May 15 to June 15): The larvae began pupating on May 23, and adults of the second generation began emerging June 10. Second-generation eggs were found on June 12, and young larvae of the second generation on June 15, at Lincoln.

CURRENT APHID (Myzus ribis L.)

tah

G. F. Knowlton (June 15): The current aphid is causing some damage wherever red currants have been examined in northern Utah.

orth Dakota

A. A. Penn (June 9): Current aphids are becoming quite numerous in Works and Dickey Counties. Have not observed any on plums or elms as yet.

GOOSEBERRY

CURRENT FRUIT FLY (Epochra canadensis Loew)

regon

D. C. Mote (June 20): S. C. Jones reports that flies have been pupating for the past two weeks. Large numbers have now left the gooseberries.

GOOSEBERRY FRUIT WORM (Zophodia grossulariae Riley)

braska

D. B. Whelan (May 15 to June 15): The gooseberry fruit worm was moderately injurious to gooseberries at Lincoln during the first week in June.

Utah

G. F. Knowlton (June 20): The gooseberry fruit worm has caused from 5 to 10 per cent damage to gooseberry patches on Bountiful Bench this year.

CRANBERRY

CRANBERRY ROOT WORM (Rhabdopterus picipes Oliv.)

New York

N. Y. State Coll. of Agr. Weekly News Letter (June 22): Cranberry root worms were found in the pupal stage close to the top of the ground in Wayne County June 17.

BLUEBERRY

CRANBERRY FRUIT WORM (Mineola vaccinii Riley)

Florida

F. W. Walker (June 22): The blueberry worm did much damage in parts of western Florida in May. In one grove near Milton fully 60 per cent of the crop was destroyed.

GOOSEBERRY FRUIT WORM (Zophodia grossulariae Riley)

Mississippi

R. W. Harned (June 19): Larvae tentatively identified as Z. grossulariae were found injuring blueberries at Gulfport on June 6 and at Ocean Springs on June 2.

PECAN

PECAN CIGAR CASE BEARER (Coleophora caryaefoliella Clem.)

Mississippi

F. P. Ansler (June 18): The pecan cigar case bearer is still doing damage to pecans in Hancock, Jackson, and Harrison Counties. There are heavier infestations than usual in the large orchards.

PECAN CASE BEARER (Acrobasis juglandis LeB.)

Georgia

J. B. Gill (June 25): Severe infestation of the pecan leaf case-bearer occurred in pecan orchards in southern Georgia and considerable damage was done in untreated orchards. Adult moths have been emerging since the third week in May.

Mississippi

J. E. Lee (June 20): The pecan leaf case bearer is present in large numbers in an orchard near Picayune.

H. Gladney (June 20): The pecan leaf case bearer is moderately abundant at Ocean Springs.

PECAN NUT CASE BEARER (Acrobasis caryae Grote)

Georgia

J. B. Gill (June 25): There has been only slight damage to the pecan nut crop in Georgia by the first-brood larvae of the pecan nut case-bearer. For the past week the adults of this species

FALL WEBWORM (Hyphantria cunea Drury)

South Carolina P. K. Harrison (June 15): The fall webworm is attacking pecan at Fairfax.

Georgia J. B. Gill (June 25): The fall webworm has been showing up in the pecan orchards of Georgia since the third week in May. With a sizeable first brood as has occurred it is expected that the second-brood larvae will be quite abundant and damaging in unsprayed pecan orchards.

Mississippi R. W. Harned and assistants (June): One fall webworm colony was found on pecan at Lucedale on June 3. The first specimens were observed at Centreville on June 9, at Moss Point on June 15, and near Columbia on June 19. Several other colonies were noted since that time at Pascagoula and vicinity.

A MOTH BORER (Synanthedon scitula Harr.)

Mississippi H. Dietrich (June 22): The pecan borer (Aegeria scitula) is doing some damage to grafts on pecans near Avera.

PHYLLOXERA (Phylloxera spp.)

Mississippi R. W. Harned (June 19): Pecan twigs containing galls probably caused by P. devastatrix Perg. were collected at Natchez, on June 8, by Inspector W. L. Gray. He reported that these galls were very abundant on a large Schley pecan tree.

Louisiana W. E. Minds (June 23): The pecan phylloxera (P. caryaecaulis) Fitch, has appeared in unusual numbers infesting many trees which are from 40 to 50 feet high and damaging some varieties which have hitherto appeared to be practically immune to their attack.

A STINK BUG (Euschistus euschistoides Voll.)

Georgia H. S. Adair (June 24): The brown stink bug is rather numerous in some pecan orchards in Albany and adjoining localities. Nymphs were observed earlier in the season feeding on a species of barley growing among Austrian peas which are used as a winter cover crop in pecan orchards.

CITRUS

PURPLE SCALE (Lepidosaphes beekii Newm.)

Florida J. R. Watson (June 22): The purple scale is moderately abundant, perhaps more abundant than usual. Drought has prevented the proper development of entomogenous fungi.

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Georgia J. B. Gill (May 27): There have been reported infestations of the cottony-cushion scale in Albany, Thomasville, Blackshear, Claxton, and Savannah.

have been emerging, and on account of the mild infestation by the first-brood larvae no severe damage to the nut crop is anticipated by the second generation. It is invariably the first-brood larvae that cause the heavy damage to the nut crop. First-brood larvae have been found to be quite heavily parasitized.

Florida budworm J. R. Watson (June 22): Nut case-bearers, Acrobasis spp., have been very destructive to pecans in the northeastern part of Florida. They have destroyed over 75 per cent of the crop about Jacksonville. About Monticello (F. W. Walker) they are not so abundant as they were last year and have destroyed about 20 per cent of the crop. In western Florida there is practically no damage (F. W. Walker). They were two weeks later than usual in emerging this year.

PECAN BUDMOTH (Proteopteryx bolliana Sling.)

Indiana J. J. Davis (June 24): The pecan bud worm was reported from Russiaville, June 8, as destructive to buds of young pecans and, to a lesser extent, walnut trees.

Mississippi R. P. Colmer (June 2): Pecan budmoth larvae caused severe damage to young pecan trees in the vicinity of Three Rivers.

HICKORY SHUCK WORM (Laspeyresia caryana Fitch)

Georgia J. B. Gill (May 27): In the vicinity of Albany, the pecan shuck worm is already causing damage to the green nuts and this pest will no doubt be troublesome in many pecan sections of the State, resulting in considerable damage to the immature nuts and the crop at harvest time.

Mississippi R. W. Earned (June 19): A correspondent at Learned sent to us on June 12 some pecans containing shuck worm larvae. He wrote: "I find a great number of the pecans in my orchard injured in this manner. The insect started its work about a week ago. A greater percentage of damage seems to have been done on the Fabst trees than any others."

WALNUT CATERPILLAR (Datana integerrima G. & R.)

Georgia J. B. Gill (June 25): The walnut caterpillar is just beginning to make its appearance in the pecan orchards of Georgia. Evidently there will be only minor injury by this pest during the ensuing season.

Mississippi J. P. Kislanko (June 19): Three adults of the walnut caterpillar were caught in the light trap at Wiggins on June 19. No colony in the orchards has yet been observed this year.

J. M. Langston (June 23): I observed a colony of walnut caterpillars on a pecan tree at A. & M. College, on June 22. This is the first time I have observed this species during 1931.

Mississippi

R. P. Colmer (June 3): The first infestation of the cottony-cushion scale east of Pascagoula River in Jackson County was found on Pittosporum and satsuma orange at Pascagoula, June 3. The small infestation was cleaned up by burning and by the Rodolia beetles.

Arizona

C. D. Lebert (June 24): With all known infestations of the cottony cushion scale excepting one found recently, the scale is greatly reduced by the Australian lady beetles. The beetles are established in all known infestations and have almost eradicated the scale in many places. Several species of mud-daubers and other wasps were observed to be attracted to citrus trees infested with the cottony cushion scale. In the citrus groves they are often an annoyance to the workers who are picking fruit or pruning trees.

SOFT SCALE (Coccus hesperidum L.)

Arizona

C. D. Lebert (June 24): Two severe infestations of oleanders were found near Phoenix during June. In one instance the scale had gone over to an adjacent grove of 3-year-old citrus. Some of the scale was found on elder trees but it was of no consequence.

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Georgia

J. B. Gill (June 25): The citrus whitefly is moderately abundant at Albany and in southern Georgia.

Florida

J. R. Watson (June 22): The summer brood of adults began to emerge at Pierson on June 8 (J.W. Wilson) and at Gainesville about the 15th. Owing to the abnormally dry weather of May and June the entomogenous fungi are scarce and the June brood will be large.

Mississippi

R. W. Harned and assistants (June): The citrus whitefly is moderately abundant in Tupelo, Lee, Union, Pontotoc, and Itawamba. They were very numerous on one cape jasmine in the city of Tupelo. The citrus whitefly is very abundant in Gulfport, Harrison County,

MEALY FLATA (Ormenia pruinosa Say)

Florida

J. R. Watson (June 22): The mealy flata was reported as doing considerable damage in citrus groves about Ft. Pierce (Alfred Warren) and Pierson (J. W. Wilson). In the latter locality O. septentrionalis Spin. was associated with it.

PURPLE MITE (Paratetranychus citri McG.)

Florida

J. R. Watson (June 22): The purple mite is quite abundant on citrus, especially satsumas and Citrus trifoliata seedlings.

TRUCK - CROP INSECTS

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Iowa

C. J. Drake (June 27:): The first specimens appeared in Ames May 22. In going over our records we find that during the past six years it has put in its first appearance during the last ten days of May.

H. E. Jaques (June 4): The spotted cucumber beetle has just recently made its appearance in our collections for this spring, the earliest date being June 3 for southeastern Iowa.

Louisiana

W. A. Douglas (May 27): A farmer left specimens of the southern corn root worm with the report that this insect was doing a lot of injury to his rice.

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica soror Lec.)

Oregon

D. C. Mote (June 20): B. G. Thompson reports that first adults of the second brood were obtained in breeding cages at Corvallis, but none in the field as yet. T. R. Chamberlin reports first larvae found in the field in Washington County on May 12. These were in seedling clover and from 3 to 6 mm. long. On May 21 eggs were being laid in seedling Polygonum on overflow land from which the water had recently been drawn. Beetles were very numerous on the damp earth, especially among the seedlings, upon which they were feeding extensively.

BLISTER BEETLES (Meloidae)

Kentucky

W. A. Price (June 25): Blister beetles are doing much damage to potatoes at Tyner, Grayson, and Kingswood.

Iowa

C. J. Drake (June 27): Blister beetles, Epicauta cinerea Forst., are extremely abundant and widely distributed in the State. A large number of telephone calls and letters have been received from farmers and county agents asking about remedial measures. The beetles seem to be most abundant in alfalfa fields and are doing considerable damage to alfalfa and a number of other plants.

South Dakota

H. C. Severin (June 10): Blister beetles are reported as causing severe damage to alfalfa, beans, peas, caragana, and potatoes in the eastern and central parts of the State.

Wyoming

C. L. Corkins (June 23): Coincident with the rise in grasshopper population, an outbreak of the blister beetle Epicauta vittata Fab. has been reported by C. H. Llewellyn, County Agent from Sheridan County, where severe damage is being done to trees, especially the Siberian pea tree.

FLEA BEETLES (Halticinae)

- Connecticut A. E. Wilkinson (June 9): There has been much damage to first leaves of tomato and eggplant by flea beetles in Thomaston, Northfield, Campville, and Terryville. (June 4): Have also noticed many flea beetles on melons, cucumbers, and squash and on freshly set truck plants, at Storrs.
- Pennsylvania J. R. Stear (June 22): Flea beetles on potato, eggplant, and tomato are very abundant at Ligonier.
- Indiana J. J. Davis (June 24): The striped flea beetle (Systema taeniata Say) was reported damaging tomato at Ladoga, June 20, beans and beets at Indianapolis, June 19, and beans at Franklin, June 22.
- Iowa C. J. Drake (June 27): The larvae of a species of flea beetle did serious injury to onion seedlings in the vicinity of St. Ansgar and Clear Lake this spring. This insect begins to work as soon as the onions begin to sprout and destroys the young seedlings before they are 3 inches tall. A 20-acre field near St. Ansgar was almost totally destroyed by larvae, counts revealing that 90 per cent of the onions had been destroyed by the larvae.
- North Dakota J. A. Munro (June 17): Flea beetles are commonly noticed in gardens in the vicinity of Fargo and causing injury to radish, rutabaga, and a few other garden plants.
- SEED CORN MAGGOT (Hylemyia cilicrura Rond.)
- New York N. Y. State Coll. of Agr., Weekly News Letter (June): A few bean plantings in Genesee and Ontario Counties in western New York were seriously damaged during the first week in June, some fields having to be replanted. (Abstract, J.A.H.)
- Indiana J. J. Davis (June 24): The seed corn maggot was reported damaging corn at Boston and Royal Center (May 26 and 27), and did much damage to lima beans at Richmond, June 3, and to beans at Portland, June 6.
- Illinois C. C. Compton (June): Adults appeared in very large numbers in truck fields during the week of June 8. Cucumbers have been severely injured in some cases in Des Plaines.
- J. H. Bigger (June 15): The seed corn maggot is very abundant in western Illinois. They have been present in unusual numbers this spring.
- Kentucky W. A. Price (June 25): The seed corn maggot did much damage to corn at Sharpsburg.

Michigan

R. Hutson (June 12): On June 12 I visited several melon fields in southwestern Michigan, particularly Van Buren County. These melon fields had been set out a few days before in veneer boxes, but were ~~rotting~~ rotting down rapidly. Examination showed them to be troubled with the seed corn maggot. We have had numerous reports of injury from this insect to beans and corn and the insect is reported as being particularly injurious to seed potatoes in Charlevoix County.

Minnesota

A. G. Ruggles and assistants (June): The seed corn maggot was very abundant in Minneapolis and St. Paul, where it was doing some damage. (Abstract, J.A.H.)

Nebraska

M. H. Srenk May 15 to June 15): The seed corn maggot practically destroyed a field of corn in Frontier County during the first week in June.

A NYMPHALID (Euptoieta claudia Cram.)

Tennessee

S. Marcovitch (June 24): This insect destroyed the foliage of beans, sweetpotatoes, and cowpeas. The butterflies have emerged and can be seen flying about. It is recorded by Holland as feeding on the passion flower.

APHIDS (Aphididae)

New Jersey

N. J. State Coll. of Agr., Weekly News Letter (June): Aphids attacking various truck crops appeared to be unusually numerous over the greater part of the State (Abstract, J.A.H.)

GARDEN SPRINGTAIL (Sminthurus hortensis Fitch)

Connecticut

N. Turner (June 18): One acre of ^{young} spinach at Ledyard was heavily infested.

C. D. Lewis (June 12): The garden springtail has absolutely killed melons and is attacking cucumbers and pumpkins at Southington and Manchester.

POTATO AND TOMATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Maine

H. B. Pearson (June 23): The first specimen was found June 4 in Augusta.

Vermont

H. L. Bailey (June 23): The Colorado potato beetle is very abundant in Orange and Washington Counties.

- New York N. Y. State Coll. of Agr. Weekly News Letter (June): Adult beetles appeared in the field throughout Eastern New York very early in the month. By the middle of the month egg laying was well under way. During the third week in the month the first larvae were noticed. This insect appears to be unusually numerous throughout the greater part of the State. (Abstract, J.A.H.)
- New Jersey N. Y. State Coll. of Agr., Weekly News Letter (June): The rather heavy potato beetle infestations reported in the last number of the Survey Bulletin prevailed during June. Many reports of damage by this insect to tomatoes were also received. (Abstract, J.A.H.)
- Maryland E. N. Cory (June 26): The Colorado potato beetle is very abundant on tomato in Anne Arundel County.
- J. A. Hyslop (June 12) The Colorado potato beetle is more abundant than for several years at Avanel. One out of six plants is nearly defoliated and every plant has some larvae. Spraying and dusting are necessary.
- Virginia H. G. Walker (June 24): The Colorado potato beetle was fairly abundant in the Tidewater section of Virginia early in the season.
- Illinois J. H. Bigger (June 15): The Colorado potato beetle is very abundant in central Illinois. Potatoes are suffering rather severely.
- C. C. Compton (June): This insect is more abundant than it has been for several years. Heavy deposition of eggs on potatoes and eggplants in Des Plaines.
- Minnesota A.G. Ruggles and assistants (June): This insect is appearing earlier than usual in this State and is already reported as very abundant in several counties well scattered over the State. (Abstract, J.A.H.)
- South Dakota H. C. Severin (June): The Colorado potato beetle has been reported attacking potatoes at Brookings. Rare, but first seen June 1.
- Iowa C. N. Ainslie (June 15): An unusual outbreak of this pest is reported from a large area in northwestern Iowa. Adults appear very rarely, but the larvae swarm on the young potato plants.
- H. E. Jaques (June): The Colorado potato beetle is very abundant in Carroll, Chickasaw, and Emmet Counties.
- Tennessee A.C. Morgan, J.U. Gilmore and J. Milam (June 22): The Colorado potato beetle has been scarcer on potato around Clarksville than at any time in the last few years in this locality.
- Missouri L. Haseman (June 22): The Colorado potato beetle is less abundant than usual though it has done considerable damage in some sections.

- Oklahoma C. E. Sanborn (May 28): The Colorado potato beetle is very abundant.
- Mississippi R. W. Harned and assistants (June): The Colorado potato beetles are unusually abundant and causing enough damage to warrant control measures in two areas in Mississippi, one in the northeastern and the other in the southeastern part of the State. (Abstract, J.A.H.)

POTATO STALK BORER (Trichobaris trinotata Say)

- Nebraska M. H. Srenk (May 15 to June 15): The potato stalk weevil badly injured some potato fields in Sarpy County during the last week in May.

POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

- New York N. Y. State Coll. of Agr., Weekly News Letter (June): The potato flea beetle was quite prevalent throughout the latter part of the month, damage being very severe in some localities. Most of the reports came from the central and western parts of the State. (Abstract, J.A.H.)
- Indiana J. J. Davis (June 24): The common potato flea beetle was destructive to potato at Mulberry, June 3.
- North Dakota J. A. Munro (June 17): Several reports of potato flea beetle injury have been received of late for this vicinity.
- Mississippi G. L. Bond (June 20): Potato flea beetles are doing some damage to potato plants near Waynesboro and Bucatunna.
- Colorado C. P. Gillette (June 26): The potato flea beetle is very abundant on potatoes at Greeley.
- Utah G. F. Knowlton (June 22): Flea beetles are damaging potatoes in many northern Utah potato areas.

POTATO APHID (Illinoia solanifolii Ashm.)

- Maryland E. N. Cory (June 19): The pink and green potato aphid is much more abundant on potatoes and tomatoes in early potato sections of the lower Eastern Shore counties than normal. (June 24): This aphid is very abundant at White Haven.
- Virginia H. G. Walker (June 24): The pink and green potato aphid is very abundant on potatoes throughout eastern Virginia and is causing considerable damage on the Eastern Shore Peninsula. In the Norfolk district eggplants also have heavy infestations.

Ohio T. H. Parks (June 23): These aphids are becoming very plentiful on the foliage of potato and tomato in central and western counties. Some damage is in prospect. This is the heaviest outbreak since 1917.

Indiana J. J. Davis (June 24): Aphids were reported unusually abundant on tomato, June 17 to 22, at Frankfort, Matthews, Indianapolis, and Kokomo.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

Iowa H. E. Jaques (June): Potato leafhoppers are very abundant in Audubon, Buchanan, and Washington Counties.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Connecticut N. Turner (June 23): The Mexican bean beetle is present in every county in the State and the overwintering adults are causing serious damage in Fairfield County. In one place in Hartford County, near the Massachusetts State line, serious damage was noted. The beetles destroyed late beans there last year. In the rest of the State the beetle is present in small numbers and causes little damage at present. At the present time second-instar larvae are present in the southern part of the State.

New York H. C. Hockett (June 15): The Mexican bean beetle is becoming very noticeable at Riverhead.

New Jersey N. J. State Coll. of Agr., Weekly News Letter (June): During the first week in June Mexican bean beetles appeared in numbers in practically all parts of the State. On June 3 the first eggs were noticed in Cumberland. On June 4 eggs were reported from Camden County, and on June 20 the first eggs were observed in northern Jersey in Morris County. These insects became so destructive that by the middle of the month the stock of magnesium arsenate in the hands of many dealers was exhausted. (Abstract, J.A.H.)

Maryland E. N. Cory (June 26): In the upper section of Anne Arundel County beans have very light, spotted infestation with last stage larvae.

Virginia G. E. Gould (June 24): The Mexican bean beetle is moderately abundant this season and appears to be causing slightly more damage than last year. The first adult beetles of the first brood are now starting to appear. In our hibernation studies we obtained an average survival of 45 per cent from four cages located in different types of woods. A cage in a pure pine woods had the best survival, with 69 per cent living through the winter.

- Kentucky W. A. Price (June 3): The beetles were present in large numbers at Mt. Sterling, Greensburg, and Bloomfield.
- Colorado C. P. Gillette (June 26): The Mexican bean beetle is very abundant in northern Colorado and in Mesa, Delta, and Montrose Counties.

PEAS

PEA APHID (Illinoia pisi Kalt.)

- Connecticut A. E. Wilkinson (May 29): Pea aphids are attacking 4 acres of peas at Vernon. The damage is just starting, but easily found in gardens.
- Pennsylvania J. N. Knull (June 19): The pea aphid is very abundant on peas in several gardens at Mont Alto.
- Ohio T. H. Parks (June 20): The pea aphid is more abundant than usual in central Ohio. The good growing weather with plenty of rains enabled peas to grow away from the pest and very few fields were seriously damaged.
- Wisconsin J. E. Dudley (June 22): In fields of late peas infestation is heaviest in eight years and bids fair to entirely ruin the crop unless nature comes to the rescue. Very large number of natural enemies with considerable variety of species observed in alfalfa and early peas, but a noticeable paucity in late peas.
- Mississippi F. P. Ansler (June 18): Pea aphids are very abundant at Gulfport, Harrison County.
- Oregon Oreg. Agr. Coll. Insect Pest Report (May): L. P. Rockwood reports aphids to be scarce on fall sown vetch; cleaned up by natural enemies in May. Moderately abundant on spring sown vetch in Washington and Benton Counties. Moderately abundant on Austrian field peas in some fields of Benton, Washington, and Yamhill Counties. Very abundant in spots in a few fields in Benton County. Badly damaged plants showing some recovery.

CABBAGE

IMPORTED CABBAGE WORM (Pieris rapae L.)

- Wisconsin C. H. Koonz (June 24): The cabbage worm is very abundant.
- Iowa H. E. Jaques (June): The cabbage worm is very abundant in Tama and Union Counties.

Tennessee

A. C. Morgan, J. U. Gilmore, and J. Milam (June 22): The imported cabbage worm has been unusually abundant around Clarksville.

DIAMOND-BACK MOTH (Plutella maculipennis Curt.)

Virginia

H. G. Walker and G. E. Gould (June 15): The larvae were quite abundant in many cabbage fields of the Norfolk district and caused considerable loss by chewing into the small cabbage heads. This is the first record of noticeable injury from this insect in recent years.

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

Connecticut

A. E. Wilkinson (May 28): The cabbage maggot is attacking cabbage at Middletown. The damage is from 5 to 15 per cent on the 13 farms visited, in the neighborhood of Middletown. On nine farms visited at Cheshire and Milldale, the damage was from 5 to 25 per cent. It was worse at Milldale, where it has been common for years. One grower alone will probably lose 2,000 to 3,000 plants. At North Devon the one farm not treated shows 66 per cent loss.

L. M. Chapman (June 2): Noted several fields at Westport and Bridgeport with damaged plants running up to 60 per cent of stand. Nearly every field showed some injury.

New York

N. Y. State Coll. of Agr., Weekly News Letter (June): The cabbage maggot is so serious in central and western New York that unscreened cabbage seed beds were damaged from 15 to 60 per cent and in a few cases all of the plants were destroyed during the first two weeks in the month. (Abstract, J.A.H.)

New Jersey

N. J. State Coll. of Agr., Weekly News Letter (June): Many fields of cabbage were practically ruined by cabbage maggots late in May and early in June in northern New Jersey. This insect is said to have been much more serious than it has been for several years. (Abstract, J.A.H.)

Indiana

J. J. Davis (June 24): The cabbage maggot was destructive to cabbage at Carthage, June 8, and to radish at Greensboro, June 4, and at Pierceton, June 14.

Kentucky

W. A. Price (June 25): The cabbage root maggot is doing considerable damage at Dry Ridge.

Wisconsin

C. H. Koonz (June 24): The cabbage maggot is very abundant.

A CHRYSOMELID (Entomoscelis adonidis Pallas)

Minnesota

A. G. Ruggles (June 24): This chrysomelid larva which was eating the centers out of young plants at Sax, early in June, has been determined by H. S. Barber as E. adonidis.

STRAWBERRY

STRAWBERRY LEAF ROLLER (Ancylis comptana Frohl.)

- Utah— G. F. Knowlton (June 8): Strawberry leaf rollers have been causing damage in Utah County during the last two weeks, according to Mr. Anson Call.
- New Jersey N. J. State Coll. of Agr., Weekly News Letter (June): During the last week in the month this insect appeared in unusual numbers in parts of Cumberland and Atlantic Counties. In many cases it was doing serious damage. (Abstract, J.A.H.)
- Kansas H. R. Bryson (June 22): Dr. R. C. Parker reports larger numbers of adult strawberry leaf rollers present this year than at any time for the past two years. Evidently this insect is beginning to make a recovery from the heavy parasitism of two years ago.

A TORTRICID (Cnephasia longana Haworth)

- Oregon D. C. Mote (June 20): W. D. Edwards reports worms more numerous this year than last. One iris planting had about a 40 per cent infestation. Injury on strawberries has run as high as 20 per cent in a planting. On June 8 the worms were found pupating in numbers.

STRAWBERRY ROOT WEEVIL (Brachyrhinus spp.)

- Northeastern States A. I. Bourne (June 26): Many complaints have been received from strawberry planters of damage caused by the strawberry crown girdler B. ovatus L. The adult beetles appeared June 18. At the present time there are few, if any, larvae or pupae to be found.
- Utah G. F. Knowlton (June 22): On June 18 strawberry root weevils, B. ovatus L. and B. rugosostriatus Goeze, were reported damaging strawberries in several parts of Cache County. They are less destructive than last year in Utah County.

SUGARCANE BEETLE (Euethola rugiceps Lec.)

- Mississippi J. Milton (June 20): On May 20 the sugarcane beetle was found to be causing considerable damage to a strawberry field near Corinth, Alcorn County. Probably 5 to 10 per cent of the plants were killed. The plants were set in the spring on sod land.

MILLIPEDES (Julus sp.)

- Nebraska M. H. Swenk (May 15 to June 15): In southern Gage County, during the first week in June, millipedes (Julus sp.) were reported doing considerable damage to strawberry fruits.

ASPARAGUS ..

ASPARAGUS BEETLES (*Crioceris* spp.)

Connecticut

A. E. Wilkinson (May 27): A very few of the common asparagus beetles (C. asparagi L.) were observed but plenty of the 12-spotted beetle (C. duodecimpunctata L.) -- more than I have seen for years; also as common in Highwood, Mt. Carmel, and Cheshire. Two young beds of 5 acres and $3\frac{1}{2}$ acres are set back, no leaves left. (June 2): Reported by almost every one of the 35 growers at a meeting last night, from Huntington, Devon, Medford, Bridgeport, Fairfield, Trumbull, Stratford, Westport, Green Farms, and Easton.

New York

N. Y. State Coll. of Agr., Weekly News Letter (June 1):
Asparagus beetles of both species are doing considerable feeding and egg laying in Chautauqua County.

Indiana

J. J. Davis (June 24): Asparagus beetles (species unknown) were reported from Aurora and South Bend, May 25. Both species are now common annually at Lafayette.

Illinois

C. C. Compton (June 3): The common asparagus beetle (C. asparagi) has been very destructive this spring in Cook County.

Iora

C. J. Drake (June 27): The asparagus beetle; (C. asparagi L.,) caused a considerable amount of worry to asparagus growers in the vicinity of Marshalltown and Waterloo. In some fields they were so abundant that the growers had to spray the asparagus and then throw away the cuttings in order to harvest later shoots. The beetles deposited such a large number of eggs on the cuttings that it was impossible to use the asparagus for canning purposes, 100 or more eggs frequently being found on a single stalk.

H. E. Jaques (June 4): The asparagus beetle C. asparagi, which we reported as showing up for the first time in the southeastern part of the State last year, seems to be considerably more abundant this year than last.

Colorado

C. P. Gillette (June 26): The asparagus beetle (C. asparagi) has been increasing for years from Ft. Collins to Denver, and is becoming moderately abundant.

California

J. C. Elmore (June 2): One or two adult asparagus beetles (C. asparagi) could be found on nearly every plant of asparagus, and the larvae were numerous on about 20 per cent of the plants at Downey. Two 10 or 12 acre fields are infested.

CUCUMBERS

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

- Connecticut A. E. Wilkinson (May 29): The striped cucumber beetle has attacked melons, cucumbers and squash. It has destroyed all young plants in many gardens at Storrs.
- New York F. G. Butcher (June 3): Found the first beetles June 1 on volunteer squash. This is 12 days earlier than last year. They are certainly thick on these plants.
- Pennsylvania J. R. Stears (June 22): The striped cucumber beetle is very abundant at Ligonier.
- Florida J. R. Watson (June 22): The striped cucumber beetle is very abundant in the Everglades, attacking cucumber, squash, melons, wild gourds, sunflowers, dahlias, and to a slight extent gladioli blooms (R. N. Lodell).
- Ohio T. H. Parks (June 24): Truck growers are finding this insect more troublesome than usual. A canning company at Celina has purchased and is distributing to pickle growers over 40 tons of calcium arsenate and gypsum mixture for dusting cucumbers.
- Indiana J. J. Davis (June 24): The striped cucumber beetle was reported damaging melons from May 25 to June 10.
- Illinois C. C. Compton (June 9): The striped cucumber beetle is very abundant in Des Plaines, where it is severely injuring cucumbers and melons.
- Kentucky W. A. Price (June 25): The striped cucumber beetle is very abundant on melons, lima beans, and cucumbers generally over the State.
- Minnesota A. G. Ruggles and assistants (June): The first adult was seen on the University Farm on May 28. This insect has been reported as very abundant from several counties south of the Minnesota River. (Abstract, J.A.H.)
- Iowa C. J. Drake (June 27): The striped cucumber beetle is very common throughout the State. It seems to be most abundant in the vicinity of Muscatine and Ares.
- Missouri L. Haseran (June 22): In spite of the favorable winter throughout central Missouri, the beetles apparently left winter quarters later than usual, but now they are beginning to collect in goodly numbers on unprotected cucurbits.
- Nebraska. M. H. Swenk (May 15 to June 15): More than the usual number of reports of the striped cucumber beetle were received during the last week in May and the first half of June.

GARDEN FLEA HOPPERS(Halticus citri Ashr.)

Virginia H. G. Walker (June 18): A heavy infestation of the garden flea hopper was found on cold-frame cucumbers at Deep Creek. Both nymphs and adults were present in large numbers in one field, but were apparently absent in the surrounding fields.

FALSE CHINCH BUG (Nysius ericae Schill.)

Arizona C. D. Lebert (June 24): The false chinch bug is very numerous on young melons west of Phoenix, killing many plants in spots throughout the field. The bugs apparently had migrated from an old lettuce field to the east.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

Virginia H. G. Walker (June 24): Squash bugs were rather numerous on cymbling and squash plants in the Norfolk area on June 16.

Mississippi R. W. Harned and assistants (June): Squash bugs have destroyed many acres of squash in Harrison, George and Simpson Counties.

Utah G. F. Knowlton (June 4): Squash bugs are moderately abundant. Beginning to cause some injury to squash at Garland.

SQUASH BEETLE (Epilachna borealis Fab.)

Connecticut N. Turner (June): The squash lady beetle is present in much greater numbers than for the past few years.

CELERY

CELERY LOOPER (Autographa falcifera Kby.)

Iowa C. J. Drake (June 27): The celery looper is doing a considerable amount of damage to celery, lettuce, peas, and radishes in gardens in the State. Reports of injury have been received from Ares, Nevada, Marshalltown, and Toledo.

EGGPLANT

EGGPLANT FLEA BEETLE (Epitrix fuscula Crotch)

Nebraska D. B. Whelan (May 15 to June 15): The eggplant flea beetle attacked young eggplants at Lincoln as early as June 6. Eggs were obtained in cages during the second week of June.

EGGPLANT LACEBUG (Gargaphia solani Heid.)

Virginia H. G. Walker (June 24): The eggplant lacebug is moderately abundant on eggplants in most fields in the Norfolk area.

TOBACCO STALK BORER (Trichobaris mucorea Lec.)

Arizona C. D. Lebert (June 24): The Jimson wee borer was found to be tunnelling the main stems of eggplant near Phoenix. Several half-grown larvae were taken from one vine.

SWEETPOTATO

ARGUS TORTOISE BEETLE (Chelymorpha cassidea Fab.)

North Carolina C. H. Brannon (June 26): The argus tortoise beetle is causing serious damage to sweetpotatoes in Currituck County.

SPINACH

SPINACH LEAF MINER (Pegomya hyoscyami Panz.)

New York H. C. Hockett (June 15): We have had an unusually severe infestation of the spinach leaf miner around Riverhead.

Connecticut R. B. Friend (June 27): This insect has not been abundant during the last few years, but this year it has caused much damage to early spinach and beets.

BEETS

BEET LEAFHOPPER (Eutettix tenellus Bak.)

Utah G. F. Knowlton (June 21) The beet leafhopper is very abundant in northern Utah. Some severe curly top has appeared in the northern Utah area, but not a high percentage as yet.

BEET WEBWORM (Loxostege sticticalis L.)

Utah G. F. Knowlton (June 8): During the past few years only a few local outbreaks of the sugar-beet webworm have been observed in northern Utah. At the present time the adult moths are generally quite abundant and slight damage has been observed in many beet fields. Serious injury is now occurring in the low areas west of Springville, and in some fields northeast of Spanish Fork. More damage is anticipated.

HOP FLEA BEETLE (Psylliodes punctulata Melsh.)

Florida G. F. Knowlton (June 15): The hop flea beetle caused damage to sugar beets in a few fields at Wallsburg.

TOBACCO

POTATO TUBER WORM (Phthorimaea operculella Zell.)

Florida F. S. Chamberlin (June 20): A slight infestation of this insect occurred throughout the tobacco region in Gadsden County. No commercial damage has resulted so far.

Kentucky W. A. Price (June 25): The tobacco split worm has now arrived in Kentucky. During the past week specimens were received in the office from Owensboro, Bremen, Lexington, and Utica. According to our office records this is the first appearance of this pest in the State.

Tennessee A. C. Morgan, J. U. Gilmore, and J. Milam (June 22): The tobacco splitworm has evidenced itself in one small infestation near Clarksville in the last few days.

HORNWORMS (Protoparce spp.)

Florida F. S. Chamberlin (June 22): Emergence of P. sexta Johan. has been retarded by extremely dry weather, in Gadsden County. Infestations in May and June were less than normal.

Tennessee A. C. Morgan, J. U. Gilmore, and J. Milam (June 22): The moths of P. sexta and P. quinquemaculata Haw. are more numerous than usual at this season, at Clarksville.

CORN ROOT WEBWORM (Crambus caliginosellus Clem.)

Virginia C. R. Willey (June 19): Specimens were received today from Holston with a statement that tobacco growers in that section are having serious trouble with a "worm that is new". Specimens have been received this spring that were damaging corn. This pest is troublesome in southwestern Virginia nearly always when corn or tobacco is planted on spring-plowed fallow land.

Tennessee S. Marcovitch (June 8): C. caliginosellus is reported attacking tobacco and corn in eastern Tennessee and damaging 20 to 40 per cent of the crop. The larvae appear to be more abundant and injurious than at any time in the past ten years.

TOBACCO FLEA BEETLE (Epitrix parvula Fab.)

North Carolina Z. P. Metcalf (May 30): The tobacco flea beetle is very abundant.

Tennessee A. C. Morgan, J. U. Gilmore, and J. Milam (June 22): This insect is doing considerable damage to newly set tobacco at Clarksville.

TOBACCO THRIPS (Frankliniella fusca Hinds)

Florida F. S. Chamberlin (June 20): Tobacco thrips are reported in Gadsden County attacking cigar wrapper tobacco crops.

F O R E S T A N D S H A D E - T R E E I N S E C T S

PERIODICAL CICADA (Tibicina septendecim L.) Brood V

New York

E. P. Felt (June 23): The periodical cicada is extremely abundant near Riverhead, Long Island, a section on the north shore being described by Mr. George C. Pike as being alive with the insect. It is so numerous that the new growth, principally oak, is being destroyed by the ovipositing females. This confirms the report made by W. T. Davis in Bulletin No. 10 of the Brooklyn Entomological Society in 1915, page 79, and is apparently a comparatively unrecognized colony extending in a band about 12 miles long from Fresh Pond to within 3 miles of Riverhead and extending inland from the Sound to the middle of the Island.

CANKER WORMS (Geometridae)

North Dakota

J. A. Munro (June 17): Cankerworms have defoliated large areas of basswood and other trees, particularly along the Red River Valley portion of the State. Several reports have been received of injury to apple trees.

Minnesota

A. G. Ruggles (June 22): Fall cankerworm (Alsophila pometaria Harr.) and the spring canker worm (Paleacrita vernata Peck) are more abundant than usual this year from Minneapolis 20 miles westward.

Iowa

C. J. Drake (June 27): The spring canker worm has been extremely abundant in the vicinities of Traer, Toledo, and Marshalltown. Many trees have been totally defoliated by the feeding of the caterpillars. In one of the State parks near Toledo it is impossible for the people to use the park because of the enormous number of canker worms present.

Nebraska

M. H. Swenk (May 15 to June 15): Some orchards in southeastern Nebraska were damaged during May by the spring cankerworm, which also attacked elms more or less as far to the northwest as Custer County.

Kansas

H. R. Bryson (June 22): Dr. E. G. Kelly reported that the spring canker worm was a serious problem from Clay Center to the western part of the State. These larvae were the most injurious in Lincoln, Ottawa, Cloud, Saline, and Clay Counties, defoliating the trees along the rivers and small tributaries. This insect was also reported as injuring elm trees at Belvidere and defoliating apple trees at Chamute, June 5.

FOREST TENT CATERPILLAR (Malacosoma disstria Hbn.)

Maine H. B. Pierson (June 23): Severe defoliation has been caused by the tent caterpillar in Hancock County.

Virginia W. J. Schoene (June 23): The tent caterpillars in orchards and forests have attracted a great deal of attention during the past spring throughout the central part of the State. The moths were present from June 10 to 20 and during this period were so numerous in the cities of Lynchburg and Roanoke that some of the merchants turned out their lights and closed the doors.

Florida H. T. Fernald (May 6 - 10): The forest tent caterpillar moth was very abundant at lights.

WHITE-MARKED TUSSOCK MOTH (Homocampa leucostigma S. & A.)

Nebraska D. B. Whelan (May 15 - June 15): The eggs of the white-marked tussock moth began hatching at Lincoln on June 10.

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Ohio E. W. Mendenhall (June 28): Bagworms are making their appearance on sycamore trees in Columbus. They are just starting, for the larvae with bags attached are very small. June 26, young bagworms were very bad on locust trees planted along the street and private property in Xenia, Greene County.

BARK BEETLES (Dendroctonus spp.)

New York R. D. Glasgow (June 22): I was impressed with the unusual number of pine, hemlock, and spruce trees which apparently were recently dead from borer injury and which still retained the reddened foliage. Large numbers of trees also showed from one to many branches with reddened foliage, indicating borer work. An increased amount of borer injury is to be expected following the past two seasons of unusually dry weather.

EUROPEAN FRUIT LECANIUM (Eulecanium corni Bouché)

Vermont H. L. Bailey (June 20): An unusual outbreak of Lecanium scale has occurred at Montpelier. Twigs and small branches of elm, ash, silver maple and some other trees and shrubs bear great numbers of the scale. Eggs unhatched. Lighter infestations were noted in nearby towns.

ASH

GALL MITES (Eriophyes spp.)

Massachusetts E. P. Felt (June 23): The ash leaf gall mite (Eriophyes sp.) becomes exceedingly abundant on individual trees and has been reported from Pittsfield.

Nebraska M. H. Swenk (May 15 - June 15): A report of heavy infestation of ash trees by the ash flower gall E. fraxiniflora Felt was received from Polk County during the last half of May.

BANDED ASH BORER (Neoclytus caprea Say)

Nebraska M. H. Swenk (May 15 - June 15): The banded ash borer has been complained of as attacking ash trees at Omaha.

CARPENTER WORM (Prionoxystus robiniae Peck)

North Dakota J. A. Munro (June 17): A specimen of the carpenter moth, taken from ash, was received by this office. Adults of this species began to appear at Fargo on June 7, and are very abundant on ash.

A SAWFLY (Tomostethus bardus Say)

Kansas H. R. Bryson (June 22): Dr. R. L. Parker reports the ash sawfly present in Manhattan this spring. Large numbers of these occurred in 1930 during the early part of May. This insect was last reported in Manhattan by Fred Marlatt in 1889.

BIRCH

BRONZE BIRCH BORER (Agrilus anxius Gory)

Nebraska M. H. Swenk (May 15 - June 15): A resident of Omaha reported the loss of a birch tree by borers that were identified for him as the bronze birch borer. This identification was not confirmed by us, but if it is correct, it indicates the first loss of birch trees because of that pest that has come to our attention in this State.

AN APHID (Hamamelistes spinosus Shimer)

Connecticut W. E. Britton (June 4 - 11): This insect is apparently more abundant than usual on gray birch at New Milford and North Haven.

BIRCH LEAF-MINING SAWFLY (Phyllotoma nenorata Fall.)

New England

Monthly Letter, Bureau of Entomology, No. 205, (May): A small colony of a eulophid, which is apparently a species of Chrysocharis, was liberated in Strong, Me., on May 27. This hymenopterous parasite issued from material of P. nenorata received at the gipsy-moth laboratory from Austria last winter. Phyllotoma nenorata is a leaf-mining sawfly on birch. It appeared in epidemic form in Maine in 1927 and has since been noted in New Hampshire, Vermont, and Massachusetts.

New York

R. D. Glasgow (June 22): The white-birch leaf-mining sawfly, has begun to emerge in Essex County.

BIRCH CASE BEARER (Coleophora salmani Hein.)

Maine

H. B. Pierson (June 23): Heavy defoliation is reported at Mt. Desert Island and near by towns on the mainland.

BOXELDER

LEAF ROLLERS (Cacoecia spp.)

Colorado

C. P. Gillette (June 26): C. semifera is very abundant at Greeley, stripping boxelder trees.

Utah

G. F. Knowlton (June 22): The boxelder leaf rollers, C. semifera Walk. and C. negundana Dyar, are defoliating boxelder trees in one area at Centerville. Moths are very abundant at the present time.

CEDAR

A TORTRICID (Tortrix cockerella Kearf.)

Nebraska

M. H. Swenk (May 15 - June 15): Additional infestations of cedar trees with the caterpillar Clepsis cockerella were reported from Frontier and Redwillow Counties during the first half of June.

A WEEVIL (Pissodes nemorensis Germ.)

Mississippi

W. H. Harned (June 19): Two specimens were collected on Cedrus deodora at Ocean Springs on May 28. Determination by L. L. Buchanan.

ELM

A POCKET GALL (Eriophyes ulmi Garn.)

Nebraska M. H. Swenk (May 15-June 15): Heavy infestations of elm leaves with the elm pocket gall, Eriophyes ulmi were received from Buffalo County during the last half of May.

ELM COCKSCOMB GALL (Colopha ulmicola Fitch)

Vermont H. L. Bailey (June 23): A very heavy infestation of the cockscomb elm gall is reported from Richord. More than the usual numbers noted elsewhere.

ELM LEAF MINER (Kaliopenusa ulmi Sund.)

New York W. E. Blauvelt (June): Specimens of infested elm leaves were received from Warsaw, May 29, Parish on June 3, from East Aurora, June 8, and from Sodus on June 10.

MOURNING-CLOAK BUTTERFLY (Aglais antiopa L.)

Ohio E. W. Mendenhall (June 18): The spiny elm caterpillar is quite bad on the elm stock in the nurseries in Lake County.

Indiana J. J. Davis (June 24): The spring elm caterpillar partially defoliated elms at Columbia City and Lafayette June 13. It was also common on willow at Rensselaer June 12.

ELM FLEA BEETLE (Haltica ulmi Woods)

Rhode Island A. E. Stene (June 24): I found the elm flea beetle in Narragansett Pier in one place and also found a few beetles near Kingston, although they did not seem to be anywhere as nearly abundant there. Previously I have found them about 5 miles west of Narragansett Pier in what is the southern part of South Kingstown. They have also been reported from the southern part of the city of Cranston. They may have been present in other parts of the State but we have not had a chance to check up on it carefully enough to make definite records.

ELM LEAF BEETLE (Galerucella xanthomelaena Schrank)

New England E. P. Felt (June 23): Eggs and small grubs occur in southern New England. The insect is somewhat later than usual. The trees have developed a very abundant foliage, and this may result in reduced injury as compared with last year.

Rhode Island Providence Journal (June 9): This insect pest is known as the most important leaf-eating enemy of the elm, and it is prevalent in Rhode Island in great numbers this year because the long drought of 1930 enabled it to survive the winter cold more easily than usual.

West Virginia L. M. Peairs (June 23): The elm leaf beetle was very destructive near the city of Wheeling. (Identification based on work; no beetles or larvae found when examination was made.)

Oregon Oreg. Agr. Coll., Insect Pest Report (May): The elm beetle is very abundant at Jackson. Young larvae hatching throughout county. Also noted at Lexington, Morrow County.

EUROPEAN ELM SCALE (Gossyparia spuria Modeer)

West Virginia L. M. Peairs (June 23): The European elm scale is injurious at Oglesby Park.

Ohio T. H. Parks (June 24): This insect is now very abundant on elm trees in Columbus. Reports come in of its presence on elms in other cities. We received more inquiries about the control of this insect than for any other pest during June. It is more serious than for years.

Vermont H. L. Bailey (June 23): The elm bark louse has been found in considerable quantity in Montpelier and vicinity.

Indiana J. J. Davis (June 24): The European elm scale is reported as abundant on elm at Aurora June 10.

HICKORY

PECAN CIGAR CASE BEARER (Coleophora caryaefoliella Clem.)

New York E. P. Felt (June 23): The hickory leaf case bearer (Coleophora caryaefoliella Clem.) is generally abundant and locally injurious to hickories on Long Island.

PHYLLOXERA (Phylloxera spp.)

Connecticut E. P. Felt (June 23): P. caryae-venae Fitch was found sufficiently abundant on hickory near Danbury to cause a somewhat marked foliage deformation.

New York E. P. Felt (June 23): Hickory leaf stem galls P. caryae-caulis Fitch have been reported as somewhat abundant on trees at Bay Shore, Long Island.

W. E. Blauvelt (June 15): Hickory twigs which were infested with P. caryae-venae were received from Marcellus.

LARCH

LARCH CASE BEARER (Coleophora laricella Hbn.)

Maine

A. E. Brower (June 9): Maine is experiencing a severe outbreak of the larch case bearer.

Vermont

H. L. Bailey (June 22): Damage by the larch case bearer continued to increase through the early part of the month. Adults were found to have emerged and eggs were found at Berlin.

Massachusetts

A. I. Bourne (June 26): The larch case bearer is apparently more abundant than normally. Many complaints and samples showing severe injury have been received from all parts of the State. This species apparently has found conditions very favorable for an unusual increase in numbers this season.

New York

R. D. Glasgow (June 22): I left Albany Sunday evening, June 14, and made a three-day circuit through northern New York via Lake George, Schroon Lake, St. Hubert's, Upper Jay, Lake Placid, Tupper Lake, and Piercefild to Cranberry Lake, returning via Long Lake, Blue Mountain Lake, Indian Lake, and Speculator. I found the larch to be severely injured by the larch case bearer throughout this entire circuit except that there appeared to be an area just north of Schroon lake where the larch was uninjured.

Pennsylvania

J. N. Knull (June 24): Native larch, five miles west of Milford, Pike County, is infested with the larch case bearer. The needles on many trees are partly brown. Many larch trees have died in this locality. This may be due to the feeding of this insect together with the late spring frosts.

MAPLE

MAPLE NEPTICULAR (Nepticula scricopeza Zell.)

New England

E. P. Felt (June 23): The maple nepticula very generally infests fallen maple seeds in southeastern New England, and to a limited extent the larvae may be found working in the petioles of leaves. This latter is more likely to occur on trees which are not producing fruit.

MAPLE LEAF STEM BORER (Priophorus acericaulis MacG.)

Connecticut

W. E. Britton (June 22): Apparently more abundant on sugar maple in Middletown, Watertown, Hamden, and Glastonbury than in most seasons. It has not been seen for several years until this summer.

W. T. Harris (June 8): Maple trees at Glastonbury are being damaged by this insect, which causes the leaves to drop.

New Jersey

E. P. Felt (June 23): The maple leaf stem borer is reported as being somewhat injurious to sugar maple at Orange.

WOOLLY ALDER APHID (Prociphilus tessellatus Fitch)

Mississippi

R. W. Harned and assistants (June): Specimens of this insect collected from maple were received on May 25 from Meridian, on May 27 from Jackson, on June 1 from DeKalb, and on June 18 from Dooneville. Alder in the southern part of the State is heavily infested.

OCCELLATE MAPLE GALL (Cecidomyia ocellaris O. S.)

Pennsylvania

E. P. Felt (June 23): The ocellate maple gall is sufficiently numerous in the Philadelphia area to attract notice on account of foliage disfiguration, on maple.

Ohio

E. W. Mendenhall (June 17): I find some maple leaf galls on the maple leaves in some of the nurseries in Lake County.

MAPLE BLADDER GALL (Phyllocoptes quadripes Shin.)

Massachusetts

E. P. Felt (June 23): Maple bladder galls were reported as very abundant upon soft maple at Pittsfield.

Connecticut

W. E. Britton (June 22): This insect has been reported as attacking silver maple at Bloomfield and Putnam in normal abundance.

NORWAY MAPLE APHID (Chaitophorus lyropictus Kess.)

General

E. P. Felt (June 23): The Norway maple aphid is somewhat to considerably abundant on Norway maples in southern New England and eastern New York, and has been reported from northern New Jersey.

Pennsylvania

C. A. Thomas (June 23): The Norway maple aphid is now abundant on Norway maples in southeastern Pennsylvania, but so far the leaf-drop has been light. Coccinellids are common, feeding on them.

Ohio

E. W. Mendenhall (June 5): The Norway maple trees planted on streets and private properties in Fiqua are badly infested with Norway maple aphids.

COTTONY MAPLE SCALE (Fulvinaria vitis L.)

- Vermont H. L. Bailey (June 23): The cottony maple scale is moderately abundant in a large part of the State.
- Ohio T. H. Farks (June 20): This scale is now quite abundant on soft maple trees and many calls are received about its control. The insect is worst in counties along the Indiana line. On some trees the limbs are white with this scale.
- E. W. Mendenhall (June 17): The cottony maple scale is found generally on maples (soft) and oriental plane trees, in the nurseries in Lake County. (June 26): The cottony maple scale is very bad on the soft maple along the streets and private plantings in Springfield. The limbs of the trees are just white with the cottony maple scale, and no doubt it will do great damage to the trees.
- Indiana J. J. Davis (June 24): The cottony maple scale is reported abundant at Kokomo, June 4, and at Gary, June 10. It was observed to be common at West Lafayette.
- Alabama J. M. Robinson (June 20): The cottony maple scale is moderately abundant over the State.

OAK

JUMPING BULLET GALL (Neuroterus saltatorius Hy. Edw.)

- Indiana J. J. Davis (June 24): The "flea seed" cynipid gall (N. saltatorius var. saltatorius) was reported as abundant on oak at Princeton and Patoka June 19 and 20. It was probably doing no damage but was conspicuous because of the characteristic "jumping" galls.

A SCALE INSECT (Kermes pubescens Bogue)

- Indiana J. J. Davis (June 24): An oak kermes is destructively abundant at West Lafayette. (Det. by H. Morrison, June 26.)

PINE

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

- Connecticut R. B. Friend (June 23): An inspection of the red pine plantations around New Haven shows a general light infestation to be present.
- Pennsylvania T. L. Guyton (June 1): A species of pine tip moth was found on Pinus montana and P. rubra in Wilkes-Barre.

G. Sleesman (June 15): The European pine shoot moth was collected from Austrian pine, red pine, and Scotch pine in nurseries at Spring Mills and Morrisville. Specimens were also collected from Scotch pine at Quakertown, on June 17.

A PINE SHOOT MOTH (Eucosma sp.)

Connecticut

E. F. Felt (June 23): The pine shoot moth, a new species of Eucosoma, was somewhat generally abundant last year in the lateral shoots of white pine at North Stamford and has been reported from other Connecticut localities. It is sufficiently numerous in some places as to cause an appreciable amount of injury.

WOOLLY PINE SCALE (Pseudophilippia quaintancii Ckll.)

Ohio

E. W. Mendenhall (May 26): The woolly pine scale is quite bad on the Scotch pines in Lake County, and is especially abundant at Tainesville.

PITCH TWIG MOTH (Ietrova comstockiana Fernald)

Pennsylvania

J. N. Knull (June 2): District forester W. S. Swigler reports considerable damage to Scotch and red pine plantations in the vicinity of Shamokin.

SPITTLE BUGS (Cercopidae)

Pennsylvania

J. N. Knull (June 11): Spittle bug nymphs have been especially abundant on Scotch pine, Virginia scrub pine, red pine, pitch pine, shortleaf pine, and white pine in various parts of Pennsylvania this year. The Scotch pines show the greatest numbers and the pitch pines next. Nymphs were observed on pines in Franklin, Adams, York, Ferry, Center, Huntington, and Cumberland Counties.

WESTERN PINE BEETLE (Dendroctonus brevicornis Lec.)

California

Monthly Letter, Bureau of Entomology, No. 205, (May): It was found that the western pine beetle, which had been in an endemic status for the past four years, suddenly increased during the season of 1930, and that large groups of trees within these plots of the Sierra National Forest have been attacked. As the winter of 1930-31 has been one of the driest on record, these plots will afford an excellent opportunity to study the effect of moisture deficiency on an increasing infestation of the western pine beetle.

POFLAR

A LEAF ROLLER (Cacoecia conflictana Walk.)

Maine H. B. Feirson (June 23): Severe outbreaks reported in Lowelltown and Kokadjo.

SPRUCE

SPRUCE GALL APHID (Adelges abietis L.)

Vermont H. L. Bailey (June 23): The spruce gall aphid is noted as very abundant throughout Washington County. Galls were well started June 4.

SPRUCE BUD SCALE (Ihysokermes piceae Schr.)

New York E. F. Felt (June 23): The spruce bud scale was reported as occurring somewhat abundantly on spruce at Westbury, L. I.

SPRUCE MITE (Paratetranychus uniunguis Jacobi)

Northeastern
States

E. F. Felt (June 23): The spruce mite was generally prevalent last year in the Northeastern States, and many specimens indicating severe infestations have been received from Philadelphia, Pa., north to Boston, Mass. A period of dry weather is very likely to be characterized by serious injury from this pest.

SPRUCE BUDWORM (Harmoloba fumiferana Clem.)

North Dakota J. A. Munro (June 17): Only a slight amount of spruce budworm injury has been reported this season. The first adults of this insect were captured at Fargo today.

A NEEDLE MINER (Hemimene albolineana Keck.)

Ohio E. W. Mendenhall (June 23): The needle miner of the blue spruce is found quite generally in Ohio. Reported abundant.

Nebraska

M. H. Swenk (April 15 - May 15): During the past fall, winter, and spring, a number of serious infestations of blue spruce with a needle miner were discovered in Lincoln. During the second week in May similar infestations were found in Norfolk. The exact species has not been determined, but is suspected to be Hemimene albolineana. It will be given careful study during the coming summer.

TAMARIX

TAMARISK SCALE (Chionaspis etrusca Leon.)

Arizona

C. D. Lebert (June 25): The tamarix scale (C. etrusca Leon.) is again becoming prevalent in the Phoenix area on tamarix trees, the young trees suffering the most from the infestations. The lady beetle Chilocorus cacti L. is rapidly becoming established, however, and is feeding on the pest.

INSECTS AFFECTING GREENHOUSE AND
ORNAMENTAL PLANTS AND LAWNS

CLEFT-HORNED PRIONUS (Prionus fissicornis Hald.)

Nebraska

M. H. Swenk (May 15 - June 15): At Sidney, Cheyenne County, during the third week in May, lawns were infested and injured by larvae.

A CERCOID (Monecphora bicincta Say)

Florida

J. R. Watson (June 22): The cercopid M. bicincta was doing considerable damage to St. Augustine grass lawns in Deland.

FOUR-LINED PLANT BUG (Foecilocus lineatus Fab.)

Massachusetts

A. I. Bourne (June 26): We have received many complaints and have personally noted considerable injury by both the tarnished plant bug Lygus pratensis L. and the four-lined plant bug Foecilocus lineatus, especially on various species of perennials in ornamental plantings. Indications are that the four-lined plant bug at least is considerably more abundant this season than normally.

Ohio

E. W. Mendenhall (June 18): The hardy chrysanthemums are badly infested with the chrysanthemum plant bug on a private planting in Fainesville, Lake County.

COMMON RED SPIDER (Tetranychus telarius L.)

Mississippi

R. W. Harned (June 19): Many complaints in regard to red spiders, accompanied by specimens of infested plants, have been received from all sections of Mississippi during the past month. Most of these complaints have been in regard to injury caused to ornamental plants of various kinds.

DELPHINIUM

CYCLAMEN MITE (Tarsonemus pallidus Banks)

New York W. E. Blauvelt (June 3): Delphiniums are seriously infested.

EUONYMUS

EUONYMUS SCALE (Chionaspis euonymi Comst.)

Virginia G. E. Gould (June 24): Practically every euonymus bush in Norfolk and vicinity is severely infested with the euonymus scale. The young scales are nearly full grown and have caused over half of the leaves to fall from many bushes.

Mississippi R. W. Harned and assistants (June): The euonymus scale is continuing to injure Euonymus japonica plantings in McComb and injury is severe on plantings in Greenville.

GERANIUMS

FULLER'S ROSE BEETLE (Pantomorus fulleri Horn)

Ohio E. W. Mendenhall (June 26): Fuller's rose beetle is very bad in one of the greenhouses in Springfield, where it is killing many of the geranium plants.

GLADIOLUS

TULIP APHID (Anuraphis tulipae Boyer)

Connecticut B. H. Walden (June 3): Several thousand gladiolus corms were injured in storage where the humidity had been too high for best storage conditions.

CABBAGE LOOPER (Autographa brassicae Riley)

Kansas H. B. Hungerford (June 18): Beginning about the first of this month, the larvae of the cabbage looper began to work on young gladiolus plants, particularly those beds that had contained lamb's-quarters and other weeds. As soon as the weeds were hoed down the gladiolus suffered severely. We reared some of these caterpillars which we found injuring gladiolus plants all over southern Kansas.

IVY

IVY SCALE (Aspidiotus hederac Vall.)

Ohio E. W. Mendenhall (June 5): Ivy plants, especially the variegated, are badly infested in one of the greenhouses in Akron. I find that the variegated ivy is more susceptible to scale attack than any other.

LILY

A NOCTUID (Xanthopastis timais Cran.)

Mississippi R. W. Harned (June 15): Larvae were reported as moderately abundant on lilies at Moss Point.

PITTOSPORUM

MEALY FLATA (Ornensis pruinosa Say)

Mississippi R. W. Harned and assistants (June): This species of plant hopper has been numerous in Hancock and Harrison Counties on Pittosporum.

PRICKLY ASH

PRICKLY ASH BEETLE (Trirhabda brevicollis Lec.)

Mississippi R. W. Harned (June 19): Specimens were recently received from Tascagoula, with the report that they were defoliating prickly ash.

ROSE

OBLIQUE-BANDED LEAF ROLLER (Cacrocacia rosaceana Harr.)

Illinois C. C. Compton (June 13): The oblique-banded leaf roller is severely injuring roses and gardenias in a large rose plant at Des Plaines.

ROSE SAWFLY (Caliroa aethiops Fab.)

Nebraska M. H. Swenk (May 15 - June 15): During the second week in June there were many complaints of a heavy skeletonization of rose leaves by the rose slug C. aethiops.

ROSE CURCULIO (Rhynchites bicolor Fab.)

North Dakota J. A. Munro (June 13): The first report this season of rose curculio injury to roses was received June 13 from Valley City.

Nebraska

M. H. Swenk (May 15 - June 15): The rose curculio was reported destroying rose buds in Adams County during the second week in June.

SUMAC

SUMAC FLEA BEETLE (Blepharida rhois Forst.)

Mississippi

R. W. Harned (June 3-8): Specimens were received from Senatobia on June 3, and from Belmont on June 8, with the report that they were defoliating sumac.

YEW

STRAWBERRY ROOT WEEVILS (Brachyrhinus spp.)

Massachusetts

A. I. Bourne (June 26): There is evidently a considerable infestation in nurseries, particularly on different varieties of Taxus by B. sulcatus Say. Prof. Whitcomb, who has had the opportunity of personally visiting several of the nurseries, reports that while Taxus is most commonly attacked, other nursery evergreens and some perennials are infested. Adults emerged about June 17 and at the present time are very abundant. Reports of similar abundance of this species have been received from Rhode Island and New Hampshire as well as in eastern Massachusetts.

Connecticut

W. E. Britton (June 24): This insect (Brachyrhinus sulcatus Fab.) was reported as having destroyed 90 per cent of the Taxus plants in two blocks in a nursery, and scattered plants are injured throughout the nursery in Fortret.

Minnesota

A. G. Ruggles (June 22): Strawberry root weevils (probably B. ovatus) have been found fairly well distributed in the southeastern part of the State. Young evergreens are suffering severe injury over large areas at Newport and Owatonna.

EUROPEAN FRUIT LECANIUM (Lecanium corni Bouche)

Ohio

E. W. Mendenhall (May 26): Taxus cuttings in a greenhouse in Fainesville are infested.

VERBENA

CHRYSANTHEMUM LEAF MINER (Agropyza chrysanthemi Kowarz)

Mississippi

R. W. Harned (June 3-4): Serious injury to verbena plants by this insect was reported from Cleveland, June 3, and from Waynesboro, June 4.

INSECTS ATTACKING MAN AND
DOMESTIC ANIMALS

MAN

EYE GNATS (Hippelates spp.)

Mississippi

H. Dietrich (June 10): A gnat, H. pusio Mall., was first noticed at Lucedale on June 10 and has since become extremely annoying.

California

D. C. Ferman (May): The catches of H. flavipes Loew in the weekly status traps indicate that over the Coachella Valley as a whole there have been more Hippelates during May, 1931, than in May, 1930; 245,190 this year, and 204,661 in the same traps last year. It is estimated that from 50 to 100 per cent more Hippelates have bred in the Valley this year than last.

CATTLE

HORN FLY (Haematobia irritans L.)

Missouri

L. Haseman (June 22): The horn fly has been unusually abundant on cattle this month and seems to be on the increase.

SCREW WORM (Cochliomyia macellaria Fab.)

Texas

R. A. Roberts (May): Numerous screw worm cases were reported, both goats and cattle having been attacked. Cases were present in soremouth kids and older goats were affected at head injuries. Some cases were found of C. macellaria attacking new-born calves at the navel. Screw-worm cases are about normal for this time of year, and in view of favorable weather conditions are not so bad as could be expected.

HORSE

HORSE BOTFLIES (Gastrophilus spp.)

North Dakota

J. A. Munro and assistants (June): Horse botflies are very abundant in Burke County, June 6; moderately abundant in Morton County, June 11; and scarce in Ramsey County, June 13.

HOUSEHOLD AND STORED-PRODUCT INSECTS

TERMITES (Reticulitermes spp.)

- Indiana J. J. Davis (June 24): The usual numerous reports of termites were received during the past month.
- Illinois W. T. Flint (June): Many reports of white-ant swarms in houses have been received during the past month.
- Nebraska M. H. Swenk (May 15 - June 15): Infestations of buildings with termites, R. tibialis Dnks., were reported from Gage County and from Clay during the period here covered. In the former case a house and in the latter a wooden granary were infested.

ANTS (Formicidae)

- Illinois C. C. Compton (May 27): Ants, Tapinoma sessile Say, are very abundant and annoying in the business district of Sycamore. Although they are most troublesome in grocery and fruit stores practically every business establishment in Sycamore is infested.
- Nebraska M. H. Swenk (May 15 - June 15): There were many complaints of trouble with ants of various kinds during the period covered. These included carpenter ants, Camponotus herculeanus pennsylvanicus DeG., working in trees in eastern Nebraska, the large red ant Formica rufa L., forming nests in yards in northeastern Nebraska, the mound-building ant, Pogonomyrmex occidentalis Cress., doing the same thing in western Nebraska, and the usual house and lawn ants proving injurious in houses and flower gardens.

GOLDEN POLISTES (Polistes aurifer Sauss.)

- Arizona C. D. Lebert (June 24): Numerous complaints have been received regarding nesting P. aurifer in caves and roofs of houses, where they greatly annoy the occupants.

A PTINID (Xyletinus peltatus Harr.)

- Mississippi E. Dietrich (June 22): A ptinid beetle, X. peltatus, is extremely abundant in the pine beams, floor, and walls of a house at New Augusta. This house had been rebuilt and stuccoed to the ground five years ago. The timbers having blue-stain had many more exit holes than sound timbers. Needless to add, termites also had made a good start.

PLANT QUARANTINE AND CONTROL ADMINISTRATION

Notes abstracted from "News Letter", June, 1931.

(Not for publication)

MEXICAN FRUIT WORM (Anastrepha ludens Loew)

The outstanding development on the Mexican fruit worm project during the month of April was the finding of infestations in locally grown fruit in Matamoros and in fruit produced in a grove near Mission, Tex.

The Matamoros infestation was discovered April 9, in sour oranges produced in the patio of a house at 8th and Herrera Streets. The fruit produced on these premises was heavily infested during the season 1929-30. Although traps have been maintained in these trees continuously since October, 1929, no adults have been caught since August 20, 1930. Upon finding this infestation a thorough examination was made of all fruit growing in Matamoros. This inspection showed no indication of other infestations. However, on the 15th and 16th adults were caught in traps located at a distance of 11 and 5 blocks, respectively, from the infested premises at 8th and Herrera Streets, one adult being captured in each of the two traps. Immediately upon the determination of the infestation and in cooperation with the Mexican inspector at Matamoros, the work of stripping all citrus fruits from the trees was started. Very little opposition to this work on the part of the citizens of Matamoros has been encountered.

On April 22, a report was received of the finding of three maggots in a grapefruit from a grove northeast of Mission. Upon checking the grove from which the fruit originated some two or three bushels of fruit were found stored in a box filled with sand. An inspection of this fruit resulted in the finding of one larva, and on screening the sand in which the fruit had been stored, five pupae were found. This fruit and the sand in which it had been stored were immediately treated and buried, as were some nine boxes which were being held in storage within about one-half mile of the point of infestation. A thorough examination of all other fruit held in storage in the valley showed no indications of further infestations.

PINK BOLL WORM (Pectinophora gossypiella Saund.)

In order to determine the activity of the pink boll worm in the Salt River Valley, Ariz., two light traps and two flight screens were used, but no moths have been taken. The inspection of cotton squares, however, yielded 5 larvae of the pink boll worm on May 5. The field where the specimens were taken was rather heavily infested last year, and the infested squares were from stub cotton. Preparations are now being made to destroy the cotton in that field. Three additional worms were found in an adjoining section on May 6. These findings are the first in that area in the 1931 crop of cotton.

On April 17 the United States Customs Examiner in Philadelphia called the attention of our inspectors to a case containing antiques from Syria packed in raw cotton. The cotton was removed and excelsior substituted; half the 36.5 pounds of cotton was examined and all seeds removed from it, the whole lot being then destroyed by burning. Dead larvae were found in 18 of 100 seeds, and in the nineteenth a living larva was found. The remainder of the seed was forwarded as an interception to Washington. Reports on both the larvae found and the seed submitted now verify the presence of the insect in both cases. This case is of special interest, not only because it is a first record of the finding of live larvae of this insect at the port of Philadelphia, but also because of the unusual attendant circumstances. The case of antiques would normally have little interest for our inspectors and we are indebted to the Customs officials for bringing the matter to our attention. It may be added that this helpfulness on their part clearly implies a very encouraging degree of understanding and cooperation between the two inspection forces in this port.

GIPSY MOTH (Porthetria dispar L.)

Infestations have been found in four towns in Connecticut and in three towns in Massachusetts. The most serious infestations in the Barrier Zone have been found in the towns of New Marlboro, Sandisfield, and Sheffield, Mass., and in the towns of Canaan and Salisbury, Conn.

During April, nine crews scouted in four towns, and two infestations were found in the town of Milan, but as the work in this town has not been completed, the size of these infestations is not known.

JAPANESE BEETLE (Popillia japonica Newm.)

Four thousand three hundred and sixteen Japanese beetles were collected in and near 500 traps placed in Cape Charles, Va., between May 20 and August 30, 1930. The infestations are comparatively light, but fairly continuous throughout the town. A representative of the Moorestown Japanese beetle research laboratory spent several days in Cape Charles while the treating operations were in process, but failed after repeated diggings to locate any larvae whatever in the treated area.

INSECT CONDITIONS IN PORTO RICO DURING MAY, 1931.

M. D. Leonard

Insular Experiment Station, Rio Piedras, Porto Rico.

Infestation counts of a sugarcane scale (Aspidiotus sacchari Ckll.) obtained from examining 100 cut pieces of cane each in four parts of a small experimental planting of BH 10-12 at Naguabo on May 9-10 showed an average of 11.25 per cent infestation. Some pieces had several nodes quite thickly encrusted. Many scales had been killed by a black fungus. (M.D.L.)

Adults of a scarabaeid beetle (Dyscinetus barbatus Fab.) known to attack sugarcane were first noted in abundance at lights at Isabela on April 20 and became very abundant for a few weeks. On the night of May 17 only a few were present and a few nights later none was observed. (M.D.L.)

The changa (Scapteriscus vicinus Scudd.) did about the usual amount of damage, approximately 15 per cent, to young tobacco plants in the field throughout November and early December, 1930, in the Juncos-Las Piedras section. This insect destroyed about 50 per cent of the young plants on a 1-acre planting of rice, the damage starting in April and continuing up to May 8. About 3 acres of rice planted in the same place in early April, 1930, were entirely destroyed by early in July of that year. (J. Gomez, Agricultural Agent at Humacao.)

Climbing cutworms were more injurious to tobacco than usual, about 20 per cent of the young plants having been killed in the Juncos-Las Piedras section during November and December, 1930. (J.G.)

The melon worm (Diaphania hyalinata L.) was found heavily infesting the foliage of melon and cantaloupe in a field near Aguadilla about the middle of May. (M.D.L.)

The lima bean pod borer (Maruca testulalis Geyer) was absent in the last count of 100 lima bean pods, although earlier in the month it had been present. (G. N. Wolcott.)

A pod borer (Etiella zinckenella Treit.) infested about 12 to 15 per cent of the lima bean pods during the month, but the last examination of 100 pods on May 29 showed no infestation at the Isabela Substation experimental plots. (G.N.W.)

The scarabee (Euscepes batatae Waterh.) was found to be badly infesting several sweetpotato tubers received by Samuel Molinary at Carolina on May 18 for use as seed from the Federal Experiment Station at Mayaguez. Both adults and larvae were abundant in the tubers. (M.D.L.)

The sweetpotato leaf miner (Aeromyza ipomeae Frost) was observed moderately infesting two small plantings of sweetpotato at Humacao Playa on May 10. A few sweeps of the net showed the flies to be common in the plantings. (M.D.L.)

A leafhopper (Emboasca sp.) was causing slight but general stippling of the leaves on two small plantings of sweetpotato at Humacao Playa on May 10; all stages of the insects were present on the undersides of the leaves.

Examined on May 5, at the Isabela Substation, an experimental planting of about one-half acre of alfalfa which was nearly ready to cut and found it generally infested with a leaf-tier (Dichomeris piperatus Wlsm.), many of the larvae being tied together and badly eaten. Damage as a whole was only moderate, however. (M.D.L.)

The bean lacebug (Corythucha gossypii Fab.) was found to be moderately abundant on several young grapefruit trees on the Isabela Substation ground on May 5. The yellow stippling of some of the leaves involved almost their entire surface. We did not notice any other host plants of this lacebug near by. Mr. Wolcott stated that he had first noticed the infestation about a week earlier. This is the first record of the insect affecting citrus in Porto Rico. On May 8 a number of leaves on several ^{small} grapefruit trees at the Insular Experiment Station at Rio Piedras showed characteristic yellowing, but very few of the lacebugs could be found on them. These trees were growing under several large Anona muricata trees which were moderately infested at the time. (M.D.L.)

Considerable damage by June beetles (Phyllophaga spp.) to the foliage of young grapefruits in two demonstration plantings of about 1 acre each was reported during early May (J.G.).

A scale (Pseudoparlatoria ostreata Ckll.) was observed as abundant on several good-sized papaya trees at the Isabela Substation and almost entirely encrusting some of the trunks and branches and several of the fruits. This scale was observed to be common ^{on} papaya at Ponce and several other localities on the south coast in September, 1930, but was not identified at the time. It has been specifically recorded from Porto Rico previously only from Mayaguez by Van Zwaluwenburg on Solanum seaforthianum and Acalypha sp. (M.D.L.)

Caterpillars of the cotton leaf worm (Alabama argillacea Hbn.) became abundant on cotton around Isabela about May 21 and most farmers are spraying or dusting. None had been noted around Aguadilla up to May 29. (G.N.W.) E. F. Rorke of the San Juan Ginnery Company reports that infestations on cotton started during May in several sections on the north coast, but that these were promptly checked by the use of insecticides. (M.D.L.) A few moths were noted at light near Aguadilla

on June 5, 8, and 9. These are in no sense migratory records, because of the small number of individuals noted in each case. (G.N.W.)

Examination of cotton fields around Carolina and Rio Grande, both in the hills and along the coast, indicated infestations of the pink boll worm (Pectinophora gossypiella Saund.) of from 75 to 100 per cent on May 12. Cotton fields around Maunabo on May 13 were so heavily infested that two had to be abandoned and a third was in such bad shape that little cotton would be obtained from a second picking. Cotton fields around Patillas and Guyama on May 13 were from 80 per cent to 100 per cent infested in most cases, although a few small fields had infestations as low as 25 to 30 per cent. The average for this district was around 90 per cent. (G.N.W.) Two infestation counts on a field of cotton in Camuy based on examination of 100 bolls each showed, on May 1, 6 per cent infestation and on May 8, 10 per cent infestation. By the end of the month there was a general light infestation over practically the whole of the north coast cotton-growing section at Camuy, Hatillo, and Arecibo. (E.F.R.)

The cotton blister mite (Eriophyes gossypii Bks.) was very abundant in several fields of cotton at Maunabo examined on May 13. It was even causing the stems and petioles to be flattened and deformed. (G.N.W.)

On May 5 a request was received from Ponce for control measures for June beetles (Phyllophaga spp.), the statement being made that the beetles had been damaging the roots of several rose bushes by burrowing into the soil at the base of the plants for purpose of egg-laying.

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